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TO
THE KINGS MOST EXCEL-
LENT MAJESTIE,
CHARLES,
By the grace of God, King of England, Scot-
land, France, and Ireland, Defender
of the Faith, &c.

Our poore Subject in all humility hath hereby presumed to prostrate, as at the feet of your sacred Majesty (for protection) these his unworthy works in Surgerie, which containe in them the method and scope of the militarie Surgeons Chest, with all the necessary appurtenances that are usefull in Surgerie for the warres; which hee tendereth, as a poore expression of his duty and zeale, for the use of your Majesties service upon all military occasions for Surgerie either by land or sea; expressing therein the easiest and safest waies and meanes of healing the wounds and other great infirmities and diseases that warre usually produceth, for the benefit, comfort, and better safety of your Majesties

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valiant Captaines, Souldiers, and hardie Sea-men; The which his poore labours, if the Author may bee so happie as from your most pious and unlimited benignitie to find a gracious acceptance, he shall with a joyfull heart esteeme his endeavours to be highly dignified.

Your Majesties most humble

subject and servant,

JOHN VVOODALL,

Surgeon of your Highnesse Hospitall of St. *Bartholomewes*, and Surgeon generall of the *East-India* Companie.

TO THE VVORSHIPFULL THE MASTERS and GOVERNORS of the mystery of Barber Chirurgions of *London* for the time being, *viz.*

To *William Clowes* Esquire, Sergeant, Surgeon to his Majestie, and (at present) Master: M. *William Lingham*, Master *George Dun*, and Master *Henry Watson*, Wardens.

To *Richard Watson* and *Michael Andrewes*, both Esquires, Surgeons in ordinarie to his Majestie, and ancient Masters; together with the rest of the Assistants, Examiners of Surgeons, the Liverie and whole fraternity of Surgeons of London,

IOHN WOODALL, an ancient Master of that mystery, the Authour of the ensuing Treatises, sendeth greeting in our Lord God everlasting.

BEloved Brethren, publicke and private salutations are Christian duties imposed upon all men by the holy Apostle *S. Paul*, the time or frequency thereof unlimited: VVherefore my selfe, even now upon the putting forth of these my ensuing workes, by that precept am taught, and doe

hereby send you a salutation, greeting you in the name of the Almighty, giving you thanks for the loving society I have found and respectively enjoyed amongst you, for forty yeeres past and more, till this present.

As also for your good likings and well approvings of my former workes and editions yet extant with you; namely, my Surgeons Mate and *Viaticum*, which now revised, I have here (with my other works) again published; which were by me penned in my love to you, for the use of the younger sort of Surgeons, your servants; who when they had received their first rudiments from you as Apprentices; yet nevertheless (as might be conceived) were wanting of some further helpes for their proficiencies in Art, to the leading them on in knowledge; as namely, first, to know the office and duties of a Surgeons Mate, which my selfe first penned and published, for their instructions; and having therein proposed unto them the methode of a Surgeons Chest, and also opened to their view the composure and order of the first methodicall Surgeons Chest, for their further incouragement in way of Art, I then gave them a help to the said Surgeons Chest, namely, I published for them a *Viaticum* (a book so called) in *Anno* 1628. for their journying, after which (as followeth) I have explained unto them such other documents as may be presumed that by their diligent endevours and carefull putting them in practice, they may in short time become

good

good proficients in military and domestick Surgery; men fit and able for the service of his Majestie, and the Common-wealth, in their science, upon all occasions.

And moreover, forasmuch as that contagious and noysome disease of the Plague hath of late yeers spread it selfe into many parts of this Kingdome, which, though now ceased, may returne at Gods pleasure, none knoweth how soon; my self, as some of you know, having in my younger daies lived in France, Germany, Polonia, and other forreigne parts, for divers yeeres together, where for want of better and more beneficiall imploiments, I was forced for my maintenance to follow the practice of the cure of the Plague: and having emboldened my self thereby, ever as in an assured hope, that God who had called me to professe the mysterie of healing, would surely protect me therein; I persisted in my endevours, and having kept my papers of receipts and experiments together, which I made in the cure of that dreadfull disease, at my returne for England I begun and practised in London the cure thereof; first, in the yeere of the great Plague at the first entrance of King *James* of blessed memorie, and left not the Citie when the disease was at the highest; neither then did I omit to visit & cure any that desired my helpe, and ever since in some sort I have beene helpfull to the curing thereof: neither will I desist from affording my medicines to the diseased, whilest God spares me life and ability. And further,

ther, I have here for future publick good, although by my own deare experience, ſearched into the ſupernaturall and dreadfull cauſes, ſymptomes, criſis, and cures thereof; the particulars of all which I have in one of the following Treatiſes publiſhed, to the help of my younger brethren; nothing doubting but that ſome of them will by their better educations and further experiences therein, furniſh the following ages with better documents then my ſlenderneſſe can unfold: In the meane time, ſince that for divers yeers laſt paſt, no other Surgeon of our Nation hath publiſhed any book of the true practice of Surgery, to benefit the younger ſort, theſe my meane Treatiſes only excepted, I deſire you to accept of my good will in ſtead of good deeds, at the leaſt not to reject it, till better comes in place by ſucceſsion of time.

And ſo not omitting the continuance of my good affection to all my brethren, the ſons and ſucceſſors of *Æſculapius* profeſſed Surgeons, I commend you to the tuition of the moſt Higheſt, reſting ſtill yours in brotherly affection,

JOHN WOODALL.

THE

THE PREFACE.

Benevolent Reader,

CHriſtian duty inciteth every man to extol Gods great mercies toward mankind, and namely, (which is the ſcope of this enſuing Treatiſe) for his bleſſing concerning the gift of healing, and for the originall or firſt finders out of the Science. In the arguing whereof, many ancient and moderne Writers have taken great paines in ſearching out and deſcribing (for memories ſake) unto poſteritie, who were the firſt diſcoverers of that noble Science or Myſterie of the healing mans body; but not without ſeverall and different opinions, and ſtrong contradictions: Yet, giving venerable and due reſpect unto all, I will crave leave for my ſelfe to thinke and beleeve that the originall foundation of Medicine proceeded from God alone; being more than ſufficiently explained ſo to be by *Moſes* that divine Hiſtoriographer, in his ſacred Hiſtory of the firſt creation of heaven and earth: For he witneſſeth that before man was created, all herbs and plants ſprang out of the bowels of the earth, with their infinite varieties of flowers and ſeeds, with different odours, ſapours, colours and formes, endued (no doubt) with many and great vertues, *Solum ex præſcientia Dei*, onely of the fore-knowledge of God. Wherefore, to attribute ſo great excellencies, ſo many waies in uſe for the health and wel-being of mankinde, to any other than to the divine bounty of God alone, would ſeeme (in my apprehenſion) not much leſſe than blaſphemy; for it could never bee, that humane reaſon could have found out the knowledge and vertues of theſe things, unleſſe God himſelfe by his ſecret preſcience had ſhewed them to man.

For God, the Architector of the world, when in the beginning he created *Adam*, and inſpired him with the ſpirit of life, made him not only a living creature, but alſo endued him with ſuch underſtanding, that he knew the natures, the forces, the proper faculties, vertues, and dangerous effects [illegible] which the ſaid univerſall world then contained [illegible] of the invention of the myſterie of h[illegible]d may not be ſo [illegible]ver-

they might bee the better enabled to ſearch out and apply wholſome medicines in due ſeaſon, according as they were inſpired or taught; for all excellent knowledge commeth from above: And this opinion is alſo aſſented unto by holy Scriptures in ſundry places.

But withall, complying with our Anceſtors as much as may bee, touching the firſt generall profeſſors of this art of Medicine; The moſt Writers affirme the *Grecians* were the firſt that tooke upon them to profeſſe the art of Medicine, and they likewiſe utter ſpeeches to the ſame effect, affirming *Apollo* to bee the firſt Inventor of Medicine; and by *Apollo*, it is ſuggeſted, that they either underſtood the Sunne, which through the penetrating heat thereof, produceth, comforteth, tempereth and cheriſheth all creatures as wel animal, and vegetable, as minerall: Or they meant, under that name of *Apollo*, ſome Noble man, who was inſtigated thereunto through an excellent and divine power (no doubt by Gods fore-knowledge) and alſo endued with learning and diligence in that noble art of Medicine, who performed ſome excellent cures: alluding whereunto, *Ovid* ſpeaketh thus of *Apollo*;

Inventum medicina meum eſt opifexque per orbem
Dicta eſt herbarum ſubjecta potentia nobis.

Medicines Inventor and Artiſt I
Through the maſſie orbe am ſtil'd to be:
Fame this attributes to my Deity,
That force of Plants are ſubject unto mee.

And after *Apollo*, the ſucceeding Inventor is ſaid to bee *Æſculapius*, which ſome Writers ſtile to be his ſonne, brought up in learning by him, who did ſomewhat more ſet forth and poliſht this Art, being as then rude and ruſtick, and therefore hee was reputed as one of the Gods. Not long after thoſe times (as Writers report) did flouriſh *Chyron*, termed the *Centaure*, who alſo excelled in the knowledge of the medicinall plants.

This *Æſculapius* (as other ancient Hiſtories witneſſe) had two ſonnes, *viz*, *Podalyrius* and *Machaon*, who followed their fathers ſteps, and profeſſed the art of Medicine, and cured the wounded ſouldiers in the Trojan Warres; and theſe chiefely practiſed that part of healing which is now called Surgery. After them the knowledge of the art of Medicine greatly increaſed, though for a time it was in a hereditary way left by them to their poſterity; and through their ſtudie and diligence was that part called Phyſ[illegible] cureth inward diſeaſes, alſo by a more prudent a[illegible]

And further, Auth[illegible] *Æſculapius* hi[illegible]

dicines, but alſo in many other ſciences. And what was left in the writings of *Hippocrates* obſcure and intricate, *Galen* faithfully interpreted and illuſtrated it, and put it into many Volumes, and eſtabliſhed univerſal precepts, and methodicall rules, and reduced the Science into a more perfect Art.

And further, wee read in Hiſtories, in the infancie of this Art, that it was a cuſtome amongſt the *Babylonians* and *Aſſyrians*, who then were very ignorant in the art of healing, to appoint the ſicke languiſhing people to be carried and laid in Porches & Galleries, or to carry them into the Market places and croſſe Streets, that paſſengers might counſell and exhort them to thoſe things, by which they might eſchue the like diſeaſes, or had known ſome to be recovered: and it was not lawfull for any one to paſſe by the ſicke with ſilence, but hee muſt utter ſome words of comfort at the leaſt.

Strabo alſo (a Greek Writer) witneſſeth, that it was of old a cuſtome amongſt the *Grecians* for the ſicke to betake themſelves unto the *Epidaurian* Temple of *Æſculapius*, that ſleeping there, they might be admoniſhed by the gods in a dreame what was good for their healths: and being freed from their diſeaſes, they cauſed thoſe remedies, by which they were recovered, to bee written in tables and faſtned to the poſts of the Temple. Such was the zeale and ſuperſtitious blindneſſe of the heathen people in former ages, and the ceremonies which they performed in a gratefull remembrance for future times.

Alſo *Hippocrates* is reported to have copied out all thoſe things, and ſo from them firſt to have amended the medicinal art. And it is likewiſe by the Ancients reported, that brute creatures have bin much conduceable unto the firſt finding out of ſome particulars in this Art: ſo that man not onely from man, but alſo from brute beaſts and birds, hath learned many good things, which by them have been demonſtrated, as namely, the vertues of divers herbs, by which they did preſerve themſelves from diſeaſes, through the meere inſtinct of nature, (as the blindneſſe of the young Swallowes is ſaid to bee removed by the herb *Celedona*, &c.)

Seeing therefore ſo great and ſo many good helps have concurred together to the perfection of this excellent art of Medicine, for the health and wel-being of mankinde, who then needs to doubt thereof, or may ſay that it did not proceed, as from the beginning, *de præſcientia Dei?* ſeeing that man, the moſt noble of all the creatures of God, and for whoſe ſake all other earthly creatures were created, receiveth ſuch unſpeakable comforts thereby; which cauſed *Herophilus* heretofore to terme the medicinall Science to bee the hand of God: for (ſaith he) as we having got a fall, doe with our ſtretched out hand endevour to free our ſelves out of that dirt or pit wee were fallen into; even ſo we, being at the point of death by the aſſaults of ſickneſſe, doe ſuccour our ſelves by the ſalutiferous remedies of good Medicines, and doe thereby, as it were, draw our ſelves out of the jawes of death; ſo as *Homer*, the Prince of the Greek Poets, doth affirme in his verſes, that one good man that can heale well, is more worth than divers other men ignorant

norant in that art : for what perſon is, or can bee more neceſſary, or more uſefull in any common-wealth or place, then the expert Artiſt, skilfull in the divine ſcience of healing ? which ſcience bringeth a man in favour with men of all degrees, yea, to bee acceptable to Princes, Kings and Emperors, being both profitable and commodious every where to Prince and people for the preſerving of health, and repelling of diſeaſes from them and their ſubjects, which alſo gaineth to himſelfe honour and riches : for, as Hiſtories record, unto *Hippocrates* by King *Abderas* (for healing of *Democritus* his madneſſe) was given an extraordinary great reward ; and moreover the heathen nation, men, women and children, gathered themſelves together, and in a triumphant manner proclaimed him (with a loud voice) to bee the ſaving god ; and honoured him with the name of *Pater Patriæ*, the father of their Countrey. And the *Athenians*, becauſe hee had freed *Athens* from the peſtilence, celebrated playes with triumphant pompe to his honour, placing on his head a crowne of gold weighing a thouſand crownes, and honoured him with the great magnificence of a King ; and likewiſe built him a ſtatue for a perpetuall eternizing of his wiſedome and learning.

It is alſo reported by ancient Writers, that one *Eraſiſtratus*, *Ariſtotles* nephew, received by a voluntary contribution from King *Ptolomie*, an hundred talents of gold, as a reward, for that hee reſtored his ſonne to health from a deſperate diſeaſe : and likewiſe, that *Auguſtus* the Emperor appointed rich ſtatues to be ſet up to the honour of *Antonius Muſa* : and that one *Quintus Stertinius* received yearely for about 50. years together, out of the Emperors treaſury at *Rome*, twelve thouſand crownes for his great skill in the myſterie of healing : and that if any ſicke perſon of ſort did call him out of the Citie for his advice, he did pay him 50. crownes a day for his skill. Moreover, it is ſaid, that for curing Pope *Honorius* the third, he every month received foure hundred crownes out of the Treaſurie of *Rome*.

Ancient Hiſtories make mention, that in former times the moſt noble and honourable perſonages (yea, Kings and Princes) were greatly delighted in the ſtudy thereof, eſteeming themſelves much graced and dignified thereby ; and thereupon, being greedy of getting renowne, have given plants denominations from their owne names, as *Gentian* from *Gentius* King of the *Aſſyrians* ; *Lyſimachia*, an Engliſh water-willow, from *Lyſimachus* King of the *Macedonians* ; the compoſition of *Mithridate* from *Mithridates* King of *Pontus* and *Bythinia* ; the herb *Achillea* from *Achilles* ; *Centauri* from *Chyron* the *Centaure* ; *Arthemaſia* from *Caria* Queene of *Arthemaſia*. And further, Writers doe affirme, *Attalus* King of *Pergamus*, *Solomon* King of the *Jewes*, *Evax* King of the *Arabians*, and *Juba* King of the *Moores*, with infinite more (too long to recite) did as it were burne with a deſire of learning the medicinall art, ſome in the herball part, others in the ſearching the vertues of drugs, others of mineralls, and did alſo write and compoſe whole volumes in that Myſterie, for the benefit of poſterity yet extant, wherein are contained infinite ſalutiferous Antidotes, by the mixture

mixture of many ſimples into one medicine.

And whereas there hath beene a queſtion amongſt ſome of the Ancients, by what name they may moſt properly call the Artiſt; the more learned ſort are juſtly ſtiled by the title of Phyſicians, and the more experienced ſort are called Chirurgions, or Surgeons; by means whereof, ſometimes there hath growne difference and offence, which I doe adviſe each diſcreet Surgeon to avoid, and that they give the Phyſician his due honour and precedence, compariſons being odious and unmannerly amongſt good men. Alſo the Artiſt of old, before the art was diſtinguiſhed, was called amongſt the *Grecians*, *Iatros*, and amongſt the *Latines*, *Medicus*, and in our countries ancient language, by report, hee was termed a *Leech*: and all thoſe denominations ſignifie no other thing but one and the ſame, *viz. A Curer of diſeaſes, ſickneſſes, wounds, apoſtumes, ulcers, &c.*

And whereas all men may judge ſuch infirmities cannot bee cured without fit inſtruments, which are firſt and chiefely by the hand of man, (who doth make ready fit medicaments and applications) to bee adminiſtred to the foreſaid diſeaſes in due order and time: The firſt inſtrumentall part of Medicine was, and is, that which both the ancient and later writers terme *Chirurgia*, or the Handy part of healing.

The ſecond is *Dieta*: a ſpeciall inſtrument to cure, without which neither wounds, apoſtumes, ulcerations, nor tumors againſt nature (as *Hippocrates* and *Galen* doe affirme) can well bee cured; for that diet muſt bee preſcribed according to the temperature of the body, and nature of the wounded part: and *Galen* alſo preſcribeth a diet for thoſe that have ulcerations, whether cancrous or otherwiſe proceeding. Wherefore I conceive him to bee no juſt and charitable judge, that denyeth this inſtrument, namely dyet, to belong to a Chirurgion as well as to a Phyſician: for, that reaſon and experience both doe allow and approve thereof, as an unlimitable inſtrument, *ſine quibus eſſe nequit*. And whereas *Galen* ſaith, *in lib.* 3. *De methodo medendi*, all arts are grounded upon experience and reaſon: if any one can declare, either by experience or reaſon, a way how to cure ulcers, tumors, wounds, fiſtulaes and other like diſeaſes incident to mans body, as the French Pox, the Plague, &c. the cures of which diſeaſes by ſtatute lawes are appointed to Surgeons, and to doe it without the uſe of dyet, and other both inward and outward helps, which theſe learned men (as *Hippocrates* and *Galen*) uſed, and have with no ſmall labour found out by reaſon and experience; then I will eaſily yeeld, and bee glad to learne, and will not only learne, but highly extoll it: but if on the contrary, no man can ſhew mee any other way to heale the former recited diſeaſes; then I ſee no juſt hinderance, but that each true Artiſt, being legally a Surgeon expert, may and ought freely to make uſe of diet to performe his cures.

The third generall inſtrument uſed in the curing of diſeaſes, is *Pharmacum*, in Latine, *Medicamentum*, or Medicine, granted to bee of ſeverall ſorts. Each man will conceive that medicine is a principall part of healing and curing of ſores, diſeaſes and ſickneſſes: for who is hee that

can cure a wound, a tumor, an ulcer, yea, but an ague with his hand only, without fitting medicines? Surely no man: Then it muſt neceſſarily follow, that *Chyrurgia, Dieta, & Pharmacum, viz.* Surgery, Diet and Medicines (I meane both outward & inward) are unſeparable companions, and therefore all to be uſed in the art of curing mans body; and that in the perſon of one man, and why not then in the Surgeon that practiſeth in military occaſions, as in ſhips and camps more eſpecially? where neither his Majeſty nor the Merchant alloweth Phyſicians nor Apothecaries any place, and there the whole ſcope of healing the bodies of the braveſt and moſt valiant warriours and hardie ſea-men, are upon all occaſions wholly referred to the skill of the Surgeon. Wherefore it were a very ungodly thing, and in reaſon moſt unjuſt, to forbid a Surgeon to learne all, or any thing that concerneth his calling: and all thoſe that are of opinion to hinder a Surgeon from uſing outward and inward medicines, have quite miſconſtrued *Hippocrates* and *Galen*, ſhewing themſelves enemies to art, reaſon and true experience, for that it is manifeſt, each of theſe aforeſaid three branches of healing, doe mightily further the other, to make the Surgeons cures perfect; for by theſe three together, and not by any one of them ſimply of it ſelfe and alone, we may boldly conclude to have healed well and honeſtly, and as wee ſhould doe.

I have, I confeſſe, too long inſiſted upon this argument, but the cauſe is, there bee ſome at this day that doe indeavour to ſever the inſtruments of healing aſunder, againſt the publike good, for their owne private lucre, and would have inward medicine practiſed onely by themſelves, and confine the Surgeon onely to outward medicine, and outward healing, as one *Tragus* an ancient Writer maketh mention, affirming, that there were certaine ſorts of men in his dayes which did uſe the art of curing ſeverally; namely, ſome by inward medicines onely, and ſome by outward, and ſome by dyet only, every one according to his education and profeſſion of curing: all theſe three contending, and each one affirming his way the beſt; in concluſion, their errours were confuted by *Hippocrates*, who gave to each of them (as learned Writers affirme) a patient to cure, whom all of them endeavouring to recover, failed in their performance: notwithſtanding, afterward by the wiſdome and skill of *Hippocrates*, they all were reconciled and united; for hee, having well weighed and conſidered each of their weakneſſes and errors, willed them apart to ſet downe how long time hee, or they would take, to cure his or their appointed diſeaſed patients; whereupon he and the reſt agreed on a ſet time: which being expired, *Hippocrates* found that although each Artiſt had ſhewed his utmoſt skill, yet their patients were not accordingly cured. Hereupon hee with much mildneſſe and kind perſwaſions (as is recorded) ſo appeaſed and inſtructed them, that each of them by the very ſame means and medicines they formerly tooke, being all uſed together to each partie, quickly and perfectly cured their ſeverall patients. Whereby alſo it is manifeſt, that it is not juſt nor ſafe for the common-wealth, neither can it bee approved, that the beſt of the ancient Fathers in Phy-

ſicke and Surgery did, or indeed could divide or ſeparate theſe three parts of healing.

But it may bee that ſome will object that *Valeriolus*, *Tagaultius*, and ſome others ſay, that a Surgeon ought not to give inward medicines, without the counſell of a Phyſician. To cleare this, I anſwer, firſt, it is expedient and juſt, where learned counſell may bee had, to make uſe of it, for that by much counſell there is ſafety: nevertheleſſe know, that it is uncharitable to forbid an expert Surgeon at any time, or in any place, the uſe of the inſtruments and medicines which are neceſſary to his art, for the curing of his patients: for certainely *Tagaultius* and *Valeriolus* meant it of them that practiſed the art of Surgery in thoſe times, being impoſtors and illiterate, and ſuch as did not underſtand the principles of their art, nor the differences of diſeaſes; and thoſe were juſtly to bee inhibited, as in every well governed common-wealth it is fit it ſhould bee. But as concerning worthy Artiſts, *viz.* Surgeons approved by the lawes of the Realme, they ought to be free to exerciſe their art; And as the ſame Author concludes with Mr. *Gales* compariſon (who was a late good Writer in Surgery) which upon the like difference hee then made of a Shipwright and a Carpenter, who were both of neceſſity to uſe one and the ſame inſtruments to performe their ſeverall workes withall: even ſo muſt every honeſt Artiſt, legally bred in the art of medicine, bee tolerated to practiſe, by what title ſoever you pleaſe to call him. Then, if ſo, hee muſt by conſequence have the free uſe of all ſuch inſtruments and means as may beſt and with moſt eaſe perfect what hee intends, to wit, the cure of mans body: for although the Carpenter may ſay unto the Shipwright, Thou art not to uſe the Axe, the Adds, the Saw, the Hammer, nor the Plane, &c. for that all theſe tooles appertaine and are proper to mee for my Art, and I cannot build without them; even ſo might the other make a like faire anſwer, and ſay, They are alſo as proper for my Art, and without them I cannot build. In like manner might the Joyner and other Tradeſmen ſay. And no leſſe may it bee ſaid of the art of medicine: for whether he be called Phyſician, Surgeon or Leech, or what other name men pleaſe to impoſe upon him, if they admit, yea and appoint him to cure wounds, tumors againſt nature, ulcers, *eriſipelaes*, *herpes*, the French pox, the peſtilence, or whatſoever other diſeaſe is incident to mans body, it is but fitting that hee be free to have the proper uſe of all medicines and inſtruments, moſt apt and meet to bring the ſame his intended ſcope to paſſe, yea, and that without offence of the Law, notwithſtanding any by-law made by any, for private lucre, to hinder the proſecution of the well-healing of the diſeaſed people. For who is ſo fit, or to whom doth the whole uſe of all good medicines ſo juſtly appertaine unto, as to the Surgeon that is expert, who by his Majeſty is preſt, and thereby commanded, as well as by chriſtian duty tyed, upon all occaſions to heale wounded and other diſeaſed perſons?

Galen in his third and fourth bookes *De methodo medendi*, doth name the Artiſt *Medicus* that doth cure ulcers and wounds, &c. and many ancient Writers call him *Medicus Chirurgus*: whereby it ap-

peareth, that the Surgeon is *Medicus à medendo*, and retaines the name *Chirurgus* by performing the art of healing in a practick way, namely, by the hand; and therefore is rightly termed *Medicus Chirurgus*, and thereby is capable to uſe all medicines for healing. And if ſo, of neceſſity he muſt not bee forbidden lawfull practice, otherwiſe how ſhall he well performe his ſcope of healing, when hee is either in Ship, in Campe, or but any where in the Countrey, where Phyſicians either are not at hand, or will not come? as when and where contagious diſeaſes happen, namely, the ſmall and great pox, or the peſtilence, &c. Now here in all conſcience the Surgeon is to bee admitted to ſhew his utmoſt skill for healing mens infirmities, without danger of any Law, if hee be a man lawfully called, as aforeſaid, to the exerciſe thereof: otherwiſe it were very unreaſonable that the Surgeon alone ſhould bee preſſed out to the healing of his Majeſties ſubjects, where no Phyſician nor Apothecary is admitted to adviſe, aſſiſt or direct him, and yet to practiſe ſhould bee held unlawfull for him, when hee performeth his beſt in any action or part of healing for his patients good. But God be thanked, there are both ancient and moderne good lawes, orders and ordinances, which doe manifeſtly enable a Surgeon to exerciſe his ſcience, and to breed up ſervants to bee expert therein, for the better continuance of the art, and for the future encreaſe of good and able Surgeons, for the ſervice of his Majeſtie, and the common-wealth. And to manifeſt the ſame, his Highneſſe not onely alloweth the uſe of inward and phyſicall drugs and medicines to the Surgeons for his owne ſervice, but is further gratiouſly pleaſed (out of his owne Coffers) to pay for them, as elſewhere in this Treatiſe more at large will appeare.

Thus much in generall by way of Preface. Now the Authour in this following Treatiſe deſires to excuſe himſelfe, by way of Apologie, to the Chirurgicall Reader, for his over-forwardneſſe in the unfolding to the vulgar what hee hath hereafter done by his explaining of a Surgeons Cheſt; which hee never intended, untill *(nolens volens)* he was put upon it, who, having in his younger daies ſpent divers yeares in travell in forraigne nations, for the gaining of knowledge and experience in his calling, ſetled himſelfe in *London*, where, according to the weake talent of his education, hee endeavoured to obtaine ſome anſwerable perfection therein, that ſo by doing good he might give the better account of the duty of his calling, by curing of ſuch as committed themſelves to his weake skill; in which endeavours, before hee was (in his owne opinion) worthie thereof, it pleaſed the honourable Societie of Merchants trading to the Eaſt Indies, in the beginning of the Trade, to make choice of him, and to appoint him Surgeon generall for all their imployments, as well by ſea as land; repoſing in him alſo the credit and truſt for ordering and appointing fit and able Surgeons and Surgeons Mates for their ſhips and ſervices, as alſo the fitting and furniſhing their Surgerie Cheſts with medicines, inſtruments, and other appurtenances thereunto. Which credit and weightie charge, ſo neerely concerning the lives of their

ſervants,

ſervants, repoſed in him, inſtigated him to imploy all his endeavours to anſwer their ſo great truſt impoſed on him : For the effecting whereof, hee had no way better to recompence them, then by reducing their Surgeons Cheſts, with all the particulars thereof, into an order and method : which was never undertaken before by any, although very requiſite : but being once done, it would not onely benefit them, but alſo bee a perpetuall good for the ſervice of his Majeſtie and the common-wealth: for by want hereof, the ſaid East India Companie, and many of their ſervants, as alſo many other publike actions abroad of great conſequence, have ſuffered much ; and namely, by unworthy impoſtors under the names of Surgeons, (to the diſhonour of God, and ſcandall of the true profeſſors of the art of Surgerie, by many miſeries undergone both by the hardie ſea-man and valiant ſouldier ;) For remedie whereof, and in want of ſome more learned and expert then himſelfe, hee undertooke the worke ; the ſaid honourable Companie being ever moſt willing, without limitation or grudging, to beare the reaſonable charge thereof, and to give approbation of the Authours weake endeavours, (which otherwiſe could never have beene done) who (through Gods mercy and their favourable acceptance thereof) hath performed the ſaid charge, and continued their ſervant (to their contents) for full twenty foure yeares already : Yet notwithſtanding, his dutie (by reaſon of the truſt repoſed in him by his ſaid honourable Maſters) was not therein fulfilled ; for hee was (if hee would fabricate a new invented Surgeons Cheſt) alſo tyed in conſcience to inſtruct all and every Surgeon (that was to make uſe thereof in their ſervices) in the knowledge and uſe of all ſuch medicines and new inventions as were of his production and induction. And although it well might bee conceived divers of them in knowledge otherwiſe exceeded him, yet nevertheleſſe, in the true uſe of new medicine, how good ſoever, which hee had intruded upon them, not being within their owne former breeding and practice, hee was obliged alſo to inſtruct them in the uſes and dangers incident by miſtakes, (fit to bee foreſeene) and that by writing. As alſo hee was further tyed (for his owne reputation ſake) to performe the ſame in ſome methodicall and plaine way.

And becauſe untill that time no Writer (that hee could poſſibly finde out) had ever handled or written any thing worthy of note of that ſubject, namely, of the methodicall compoſure of a militarie Surgeons Cheſt ; hee was put upon the toyle and ſtudie of new inventions, for the fit compoſure of medicines and inſtruments, and that without the helpe of Authours, yea, and without the helpe of the Surgeons themſelves, that were to uſe the ſaid Cheſts, who (eſpecially the more ignorant ſort of them) for their owne private ends, and in part to cover their imperfections and abſurdities, forcibly withſtood him. Yet notwithſtanding all ſuch diſcouragements, after he perceived in himſelfe any hope or abilitie of effecting the worke, hee

proceeded on with courage, being confident of the goodneſſe and uſefulneſſe thereof, for the preſerving of mens lives and limmes; and would alſo in time to come prove profitable both for the ſervice of his Majeſtie and the whole common-wealth, as at this day is manifeſt.

For this Worke hath already turned the whole compoſure of the Surgeons Cheſt into its owne forme and method, both plaine and eaſie, being free from all exceptions of abſurd fraud or colluſion, and alſo free from the former obſcure, imperfect and ridiculous errours, and impertinent intruſions, whereby every unworthy ignorant impoſtor (as under a vizzard of hidden skill) made uſe of the art of Surgery, and thereby put up whatſoever they pleaſed into their Cheſts, under pretence of extraordinary skill, great ſecrets, unvaluable, unſearchable, and not to bee prized treaſures, (which long time they had concealed) but being ſearched into, appeared for the moſt part faulty, fraudulent, and full of poore blinde ignorance: whereby (as is ſaid) divers unskilfull perſons intruded themſelves, not onely to bee entertained into the Merchants beſt ſhips, but alſo into his Majeſties ſervice, yea and that into His beſt ſhips, as great Surgeons, without either judgement, ſound medicines, or once viewing of any their proviſions, and without examining any their abilities in their callings; making their abbettors beleeve that thoſe which ſought to view their Surgeons Cheſts, came but to learne ſome of their (no) skill, or for ſome of their (leſſe) money at the faireſt.

Finally, though the worke might ſeeme never ſo commodious, yet not onely to ſuch as before are rehearſed, but even to ſea-Surgeons in generall, it ſeemed harſh and unreaſonable; and namely, (wherein in part they were to bee excuſed) for that their exceptions had a good ſhew of reaſon, in that they held it not fit that one Surgeon ſhould make ready a Cheſt for another Surgeon, and the abſent Surgeon not verſed in the practice of the things made and appointed for his uſe: And this was held not onely unjuſt, but ridiculous; and that juſtly, had not inſtructions, namely, the Surgeons Mate beene written. And it hath ſince beene obſerved (the inſtructions being put forth) that the ſame abſent Surgeons, after better informing themſelves (by the Authors directions ſet forth in Print) of the integrity and innocent way thereof, with the faireneſſe of the Worke alſo, and the utilitie of the ſaid Treatiſe, have commended it, and approved thereof: ſo that by a few yeares practice of the younger ſort of Surgeons, it is now brought into common uſe and generall good liking; ſo that it hath gotten credit, and is with all Surgeons common in uſe, yea even in his Majeſties ſervice, being firſt made uſe of in the *Rochell* Expedition, the Authour then having the charge of preſſing, furniſhing, and ordering of his Highneſſe whole Navie and land ſervices, with Surgeons and Surgeons Mates, with all their proviſions.

This preſent Worke, being now the third Edition, as it were, of the method

method of the Surgeons Cheſt, the Authour entreates (as the former hath had) may receive a charitable conſtruction upon the egreſſe thereof; and albeit the benevolent Reader (no doubt) may ſee and apprehend divers errours and meane paſſages therein (diſcovering thereby the Authors many weakneſſes) yet that hee of his clemency would either amend them, or in love cover them, conſidering that *Facilius eſt inventis addere, quam nova invenire.*

And further, if any Reader of his owne calling, condemne or contemne him, for ſo farre explaining the hidden myſteries of the art to the vulgar, ſaying, By your rules every young youth may proceede, not onely to furniſh, but alſo to make ſome uſe of a Surgeons Cheſt, though hee never truely ſerved for it; The which the Authour will confeſſe to bee an errour and weakeneſſe in him, and therefore craveth pardon; but withall (for his defence) alledgeth, That hee had an earneſt deſire by ſuch an errour to doe a publike good, not onely for the benefit of every worthy young Surgeon, but chiefely, and indeede for the common-weale, and ſafety of the lives and limmes of many of his Majeſties loving ſubjects: *Quia non nobis ſolum nati ſumus:*

Naſcitur indignè per quem non naſcitur alter.

Now, unleſſe the Surgeons Cheſt had beene reduced into a method, how could one Surgeon at ſea well have ſucceeded another, in the uſe of a practice unknowne unto him? For by death all mens thoughts periſh, and ſo doth every mans private inventions and practiſes; and by conſequence, his death might have produced much dammage upon (otherwiſe) a hopefull deſigne, the want whereof many a worthy and valiant ſea-man, by lamentable experience, hath felt, before the Surgeons Cheſt was thus digeſted; becauſe then every unworthy Surgeon (how weake, as is ſaid, or deficient ſoever) had power, if hee pleaſed, to practiſe, to the diſhonour of God, the ſcandall of that moſt laudable myſterie of healing, and the great danger of mens lives, procured by their ignorance and errour: for things knowne may bee judged of, but unknowne things ſtand by hazzard and chance:

Cognita judicio conſtant, incognita caſu.

Likewiſe the explaining thereof hath not onely much enriched the Profeſſion of the Apothecaries, by undertaking the making, ſelling at their Shops, and tranſporting beyond the ſeas of many Surgeons Cheſts, for perſons (unknowne to them) inhabiting in forreigne parts; but alſo enabled them at their pleaſures to have for ſale, and for his Majeſties ſervices, complete, (or in part) Surgeons Cheſts ever readie: unto all which faithfull Apothe-

Apothecaries the Authour wiſheth proſperitie and happineſſe.

And laſtly, it hath divers wayes brought advantage and good to the whole Society of Surgeons; in ſo much that his Majeſtie, by the Lords of his Highneſſe moſt honourable Privie Councell, hath taken notice thereof, and, obſerving the utilitie that it produceth to the common-wealth for the ſaving of the lives and limmes of his Highneſſe ſubjects in time of Warre, hath beene graciouſly pleaſed to allow a free benevolence, out of his Coffers, towards the ſame, for all ſhippes imployed in his ſervice: which allowance was never granted before by any of his Highneſſe noble Progenitors, the Kings or Queenes of England: the particulars and order of which allowances, more at large appeare in the Preface of the Authours *Viaticum* herewith imprinted, unto which, for brevitie, hee referreth the Reader; hoping theſe his indeavours will bee well accepted of the judicious and better diſpoſed ſort of Readers. As for the reſt, hee regardeth not; and the rather, for that hee is haſting to the grave, where envie hath no power: And on the other ſide, hee is not ignorant, that a large broode of pregnant wits, fraughted with Jeers, (and good ones, as they terme them, ſuch as theſe times affoord) will ſnarle, though themſelves either cannot, or (bee it ſpoken in the beſt ſenſe) will not ſpare time from their pleaſures or profits to advantage others; yet are they ſo ſharpe of wit, and can ſo well diſpute, and ſo wiſely reaſon, that they will eaſily make

Candida de nigris, & de candentibus atra.

Their words ſeeming as oracles to their owne applauders, in whoſe opinion they onely have the keyes of art at their girdles. But to any ſuch, I ſay as one of the learned lately did to the like;

Cum tua non edas, carpis mea carmina Leli:
Carpere vel noli noſtra, vel ede tua.

Sloth ſits and cenſures what the induſtrious teach:
Foxes diſpraiſe the grapes they cannot reach.

Some have already accuſed the Authour to have loſt time in writing of the cures of divers diſeaſes, farre better written of by others. Which although hee cannot deny, but that the accuſation is juſt, yet anſwereth, That if each Surgeons Mate had experience, with a Library and judgement to uſe it, his labours were then in vaine and idle: and to ſuch as have theſe helpes, or that perfection, the Authour intends not theſe his labours; and to that party in particular, hee anſwereth, That if one wiſe man in former ages hath commended and well approved of another in writing

both

both of one and the ſame ſubject, hee conceiveth it is as eaſie for one foole in this age to winke at anothers faults and weakneſſes, eſpecially, ſuch fooles as have neither wit nor will to write better. As for wiſe men they will judge like themſelves: but who can ſatisfie a foole? And ſo hee concludes, with theſe following verſes, taken out of a German Writer, as a loving anſwer to all ſuch as ſhall hereafter finde fault with his book:

Wems g'libt, gefelt, vnd nütz ſein wird,
Demſelbig'n ſey es prepartirt:
Wer aber vnwill hat darvon,
Der b'halt ſein gelt, vnd laſz es ſtan.

In Engliſh thus.

Who likes, approves, and uſefull deemes
This work, for him 'tis wrought:
But he that light thereof eſteemes
May leave the booke unbought.

THE

THE OFFICE AND DUTY OF THE SURGEONS MATE.

HAving an intent to set downe Instructions for Surgeons Mates, out of my love to them, I thought it meet in a word or two to put them in minde also of their duties. The office and duty of a Surgeons Mate, may (in my opinion) well bee divided into three parts, whereof the first concerneth his duty to God, who seeth not as man seeth, and who is the searcher of the heart, and knoweth mens thoughts long before, whom if hee and I have the grace to honour with our whole hearts and feare, he will direct our waies aright.

The second duty of the Surgeons Mate, is concerning the chiefe Surgeon, towards whom hee must bee carefull to behave himselfe wisely, lovingly and diligently: and in many respects he is obliged to his Mate as the wife to her husband; for hee ought to bee to him in every point readie to obey his reasonable will, I meane onely in things concerning his calling, dutifull, diligent, willing, carefull, secret, and loving, yea, and to shew his love in covering his Mates weakneſſe: hee ought also to bee gentle, and kinde in speech and actions towards all: pitifull to them that are diseased, and diligent in ministring to them such fitting remedies as he shall receive, or bee directed to give from his Mate; but none without his order, for that his Mates order, I meane the Surgeons order, is his discharge or warrant, whatever happen: yet let him privately lend his best advice to his Mate, the prime Surgeon, upon every needfull occasion, kindely, submissively and lovingly, ever as under correction; for if comparisons or opposition take place betwixt them, it is not onely dangerous to all the Ships Company, but also a disgrace to themselves, and a great scandall to their calling: for a woyding which, it is fit that the

younger

younger obey the elder, and beware of the contrary, leſt it bee repented too late. S. Paul adviſeth ſervants to obey froward Maſters, ſo I adviſe Surgeons Mates to doe the like to froward Surgeons: for it ſheweth no excellent thing in a young man to pleaſe an honeſt quiet man, but to live in love with an ambitious or otherwiſe a froward vicious man, ſheweth wiſedome in the ſufferer. I would not ſo ſtand upon this point, but that my experience hath knowne too much the great harm that hath enſued by the diſſention of the Surgeon and his Mate in long voyages, the which with diſcretion and love might have beene prevented, if but one of them both had beene wiſe. The Surgeons Mate ought alſo daily to viſit the Cabins of men, to ſee who hath any ſickneſſe or imperfection: alſo to have ready againſt occaſion Lint made, Plaiſters ſpread, Splints armed, Needles prepared for ſtitching wounds, Rowlers and Boulſters, Dorſels, Tents, Buttons, Cappes, Pledgents, Tape, rowling Needles, and Threed prepared, and each other needfull thing for his calling, readie in their convenient places, fitted againſt occaſion be. Likewiſe his care muſt bee to keepe all the inſtruments of the Cheſt, and of his owne Boxe, cleane from ruſting, and to ſet his Lancets and Raſors as oft as need is. It may bee hee will ſay to himſelfe, it is a baſe office, belonging to meere Barbers and Grinders, I never gave any minde to it, &c. But let mee friendly tell the Surgeons Mate, it is the credit of a young Artiſt to take a veine ſmoothly and neatly, as alſo to ſhave well is praiſeworthy: wherefore I wiſh him to practiſe to doe it, and to be ever learning; for I am ſure hee ſhall never know halfe hee ought to know, though he doe his beſt.

Thirdly, if hee enter into conſideration wherefore hee goeth to Sea, and hazzardeth his life. I ſuppoſe it is to gaine, or hee is unwiſe: if to gaine, the chiefe gaine hee can intend, being a Mate, is knowledge in his calling. Then let him conſider wiſely how hee may beſt apply himſelfe to effect ſuch gaines, namely, by obſerving the whole paſſages of the diſeaſed people, conſidering both when they began to bee ſicke, as neere as he can, the cauſes thereof, what hath been applyed either inwardly or outwardly, what operation the medicine had, and ſo of every diſeaſed perſon, and every medicine given; and to keepe a Journall in writing of the daily paſſages of the voyage in that kinde, and that as well of the unſucceſsive applications, as of the ſucceſsive, hee ſhall finde

great

great benefit in both: Likewise what alterations of operations he findeth in each medicine, and what medicines keepe their force longest, and what perish soonest; Also what variety the climate causeth, of the Doses as well of the laxative as opiate Medicines: I heartily wish each Surgeons Mate were carefull in these points. Another good way for him to learne is, to read much, I mean in Chirurgery and Physicke, and well to consider and beare in minde what he reades, that as he hath neede of the helpe of his bookes, hee may againe finde the thing he once read, which wil turn much to his profit: for otherwise what use hath a man of reading, if he forget it presently? If a Surgeons Mate spend his time wisely in the premises, he may doe good service to God, his Country, and himselfe, and the benefit will be his, namely, Gods favour, perferment, credit and reputation in the world will bee gained thereby, which will bring abundance of good things with it, which God grant for his mercy sake. And were it not that I have intended this plaine Treatise wholly to the Surgeons Mate, I would in a word or two put the young Sea-Surgeon himselfe in minde of his charge, by admonishing him of some errours too grosse, which I have observed to have beene committed by some, that hee might avoide the like in himselfe.

The first errour some young Surgeons are possest with, from which infinite others grow, is the want of the service of God, the example whereof to their Mates is very infectious: and this bringeth with it a blaspheming the name of the Almighty, a generall deboist and base kinde of habite on them, ready for all unprofitable, idle, and unseemly actions, and unapt for to prosecute any good thing, either in their callings, or otherwise: And if they seeme to be any thing, it is in boasting and brave phrases, censuring other men in many things, but not perceiving their own wretchednes at all. Being given and dedicated to the Pot and Tobacco-pipe in such an unreasonable measure, that thereby they become in themselves base, despising vertue and commending vice; and to their Mates they shew themselves most unkind, keeping that little knowledge they have from them, not instructing them at all in their Science, and holding them in more base subjection then their Masters ever did in their Apprentiships. Also of a proud lasie disposition, commanding them (without due instructions) to doe the whole businesse, when indeed themselves ought to put their hands, even to those parts of Surgery which they esteeme baseſt; for the most lamentable diseases of poore men require the most care of the Surgeon, as for example, the ulce-

rations and ſlidings downe of Ani or *the* Arſ-gut, *which ſome in diſdaining to doe their office of fomenting, comforting, and reſtoring thereof to the due place, moſt inhumanely have cut it off, when with as good a conſcience they might have cut their Patient his throat: and the ſame I ſay to him that is negligent, and ſuffereth ſuch to periſh in their infirmities, without doing his utmoſt diligence. I could name ſome of the parties who have much diſgraced themſelves and the noble Science: but I will be charitable, hoping they will amend; and conclude with an old Grammer verſe, worthy the remembrance of all men:*

Fœlix quem faciunt aliena pericula cautum.

Thine *I. W.*

THE

TO THE CHIRURGICALL READER.

Loving brethren,

IF you pleaſe to take notice thereof, within this Volume, you may eaſily diſcover the Surgeons Cheſt three times to bee repeated; or rather three ſeverall proportions or explaynings of a Surgeons Cheſt, or of Surgery proviſions for Military uſes: The firſt whereof puts the Reader onely in minde, by way of inference, of particular Medicines, Inſtruments, and other materialls & needfull additaments, uſeful for a Surgeons Cheſt, for Sea or Land, to be provided with; as alſo ſuch neceſſaries as by the ſhip Barbers are fit to be had in readineſſe. In the ſecond view of the Surgery Cheſt, is deſcribed (and as it were ſet open to be viewed) a Cheſt fitted for a great Ship upon a long Voyage for Sea ſervice; as ſuppoſe for an Eaſt India Voyage. And wherein this ſecond is not ſufficiently explained, the firſt (if you pleaſe to repaire unto it) ſhall give you further ſatisfaction. As for the third proportion, it is a Surgeons Cheſt epitomized, or a ſparing proportion, as ſuppoſe chiefly ordained for the curing of wounds either with Gun-ſhot or other caſualties, and accidents, in his Majeſties ſervice for a Voyage on a ſudden, to ſerve upon or neere our own Coaſt, where additions (if occaſion be) cannot be wanting in every Port town. Unto all which proportions as each occaſion of uſe ſhall urge, relation may be had, in regard each one of them differ in many and divers reſpects from the other. In which my indevours, if any of the more ſharpe witted ſparkes of the time, I meane any of my younger brethren, ſhall ſhew his greater skill, and ſay, I can yet adde many more needfull particulars, which the Author hath in his neſcience omitted; as an acute verball youth did not long ſince in my hearing, he not knowing me to be the Author: to whom I made a ſhort, though it may be not a reſpective anſwer, that a foole could doe as much. For who that hath wit, and is expert in Surgery, can be ignorant, that all medicines that Art hath ever deviſed or invented from the beginning of times for the health of Mankind, or can any way be produced for the healing of the bodies of men, the ſame may be found uſefull in a Surgeons Cheſt; whether the medicine be compoſed by a Chymicall, Methodicall, or Empericall Sur-

geon, and whether made of an Animall, Vegetable, or a Minerall ſubſtance, the Artiſt may doubtleſſe make good uſe thereof for Sea or Land ſervice in his Cheſt: but nevertheleſſe, the Author by way of introduction held it fitteſt for him to expreſſe *partem pro toto*, a part for the whole, (*Nam verbum ſat ſapienti*) leaving juſt liberty, with roome ſufficient, for ſucceeding times to ſhew their inventions and excellencies, as alluding to the wiſe ſaying of *Hippocrates* in his firſt and ſecond Aphoriſmes, *Vita brevis eſt*: Mans life is ſhort, *Ars longa eſt*, Arte is long. In which regard the diſcreet young Artiſt, that hath time enough before him, is hereby deſired to forbeare his cenſure of the weake endeavours of the Author, untill he have effected a better of his owne, and more uſefull in Surgery for the Common-wealth.

A note

A note of particular ingrediences for a Surgeons Cheſt, and of other neceſſary Appendixes ſerving for Chirurgicall uſes, whereof theſe next recited may be placed on the lidde of the Cheſt to open view, to manifeſt he hath them, if the Surgeon will have it ſo, or he that is to pay for them deſire to ſee them in view.

Inciſion knives.
Diſmembring knives.
Catlings.
Raſours.
Trapans.
Trafine.
Lavatories.
Head Sawes.
Diſmembring Sawes.
Diſmembring Nippers.
Mallet and Chizell.
Speculum Oris.
Speculum Oris with a ſcrew.
Speculum Linguæ.
Speculum Ani.
Cauteriźing irons.
Storks bills.
Ravens bills.
Crowes bills.
Terebellum.
Inciſion ſheers.
Probes or flamules.
Spatulaes great and ſmall.
Spatulum Mondani.

For teeth.
- *Paces.*
- *Pullicans.*
- *Forcers or punches.*
- *Crowes bills.*
- *Flegmes.*
- *Gravers.*
- *Small files.*

One bundle of ſmall German inſtruments.
Gliſter Sirings.
Small Sirings.
Cathetor.
Wax Lights.

Theſe for the lidde of the Surgeons Cheſt, till the Surgeon ſee cauſe to remove them.

The reſt that follow are no leſſe neceſſary then the former for their particular uſes: namely,

The Salvatory furniſhed with ſuch Unguents as hereafter in their places are named.
The Plaſter box furniſhed with the due inſtruments and medicines thereunto belonging.
The inſtruments for the Plaſter box are as followeth ordinarily.
Sciſſers.
Forceps.
Spatula.

A capitall instrument.
Probe.
Stitching quill and needles.
Lancet.
Burras pipe.
Lavatory.
Vvula spoone, &c.

Cupping glasses.
Brasse bason.
Bloud porringers.
Diet pot.
Skillet.
Chasing-dish.
Glister pot.
Funnell.
Cups to give potions in.
One board to spread plaisters.
Morter and pestell.
Weights and scales.
Sives.
Searces.
Strainers.
Splints.
Juncks.
Tape.
Towe.
Spunges.
Clouts.
Rowlers.

Gray paper.
White paper.
Empty pots.
Glasses.
Thred and needles.
Wax lights.
Lanthorne.
Tinder-box furnished.
Inke and quilles.
1 Close stoole.
1 Bed stoole and a brasse paile.
Bricks to heat upon occasion.
Pipkins.
Empty bags.
Skins of lether.

The particulars of such Emplaisters as are most common in use by sea Surgeons.

Emplastrum
- *Stipt: Paracelsi.*
- *Diachilum cum gummis.*
- *Diachilum simplex.*
- *Diachalcitheos.*
- *Oxicrotium.*
- *Mellilotum pro splene.*
- *Mellilotum simplex.*
- *De Lapide Calaminari.*
- *De Minio.*
- *Callidum or spiced plaister.*

Unguents most in use in the Surgeons Chest.

Unguentum
- *Basilicon.*
- *Apostolorum.*
- *Aureum.*
- *Ægyptiacum.*
- *Albū Camphoratū.*
- *Diapompholigos.*
- *Pectorale.*
- *Rosarum.*
- *Nutritum.*
- *Populeon.*
- *De Melle & Sapo.*
- *Contra Ignem.*
- *Contra Scorbutum.*
- *Dialtheacomposita.*
- *Dialthea simplex.*
- *Potabile.*
- *Mercurii.*
- *Linamentum arcei.*
- *Aragon.*
- *Martiatum.*
- *Axungiæ porcinæ.*
- *Axungiæ Cervi.*
- *Mel simplex.*

Waters or liquors fitting a Surgeons Chest.

Aqua
- *Composita ex spiritu vini.*
- *Cœlestis*
- *D. Stevens.*
- *Rosa solis.*
- *Cinamon.*

Aqua
- *Cinamon.*
- *Limoniorum.*
- *Roſemary.*
- *Saſſafras.*
- *Anniſeed.*
- *Abſinthii.*
- *Melliſſæ.*
- *Angelicæ.*
- *Minthæ.*
- *Cardui ſancti.*
- *Theriacalis.*

Simple.
- *Roſæ Damaski.*
- *Roſa Rub.*
- *Odoriferæ.*
- *Plantaginis.*

Compounded.
- *Falopii.*
- *Viridis.*
- *Aqua fortis.*
- *Lotion.*

Lixivium forte, & Commune.

Acetum Roſarum.

Acetum Vini.

Verjuce.

Spiritus
- *Vini.*
- *Vitrioli.*
- *Terebinthinæ.*

Cauſtick liquid.

Sal
- *Abſinthii.*
- *Gemmæ.*
- *Nitræ.*
- *Lapidis infernalis.*

Oleum
- *Roſarum.*
- *Anethinum.*
- *Chamomeli.*
- *Lumbricorum.*
- *Liliorum.*
- *Hipericonis ſimplex.*
- *Hipericonis cum gummis.*
- *Balmi Artificialis.*
- *Sambucorum.*
- *Ol: Lini.*
- *Ovorum.*
- *Laurini.*
- *Abſinthii.*
- *Papaveris.*
- *Petroleum.*
- *Scorpionis.*
- *Amigdalarum dul.*
- *Amigdal: amara:*
- *Balſami naturalis.*

Chymicall Oyles.

Vitrioli.
Sulphuris per campanum.
Gariophilorum.
Cinamome.
Macis.
Philoſophorum,
Anniſæ.
Terbinthinæ.
Juniperri.
Spic:
Antimonii.
Succini.
Abſinthii.
Origani.

Syrrups.

Syrrupus.
- *Abſinthii.*
- *Limoniorum.*
- *Papaveris.*
- *Cinamomi.*
- *Roſarum ſimplex.*
- *Solutium.*
- *Violarum.*
- *Oximell ſimplex.*
- *Mel Roſarum.*
- *Diamorum.*
- *Raphanæ ſilveſt.*
- *Prunellorum.*

Conſerva
- *Roſarum.*
- *Anthos.*
- *Berberorum.*
- *Citoniorum.*
- *Luiulæ.*
- *Prunellorum.*

Electuaria

Electuariæ
- *Extract. catholicon purgance.*
- *Extract. rudii.*
- *Diacatholicon.*
- *Diaphœnicon.*
- *Diaprunum.*
- *Conf. Hameck.*
- *De ſucco Roſarum.*
- *Diatrionpiperion.*
- *Theriacei Londini.*
- *Conf. Alkermes.*
- *De Ovo.*
- *Mithridatum damo.*
- *The: Andromate.*
- *The: Diateſſaron.*

Diaphoreticon Aurum vitæ.

Opiats.
- *Laudanum Paracelſi.*
- *Diaſcordium.*
- *Diacodium.*
- *Philomum Romanum.*
- *Perſicum.*
- *Tarſenſi.*
- *Aurie Alexandrine.*

Succus
- *Abſinthæ.*
- *Acatie.*
- *Licorice.*
- *Limoni.*
- *Pulpa Tamarindarum.*

Pil:
- *Agaricum.*
- *Aurea.*
- *Chochiæ.*
- *De Euphorbio.*
- *De Cambogia.*
- *Ruffii.*

Puluis laxativus
- *Sanctus.*
- *Arthreticus.*

Trochiſcus
- *Abſinthia.*
- *Alhandall.*
- *De Spodio.*
- *De Minio.*

Simples.

Foliorum ſenæ.
Rhabarbaræ.
Agaricum.
Scamoniæ.
Aloes.
Hermodactils.
Polipodium,
Dens Elephantis.
Cornu cerui.
Euphorbii.
Turbith.
Mirabulanorum
Cambogia.
Caſsia fiſtulæ.

Certaine other Simples.

Crocus.
Opium.
Chinæ.
Sarſſaparillæ.
Saſſafras.
Guiacum.
Cortex guaiacæ.
Cortex granatorum.
Licorice.
Hordia com:
Hordia gallic.
Semen aniſæ.
Feniculi dulces.
Feniculi comun.
Carraway.
Cumini.
Petrocelini.
Lini.
Fenigrece.
Anethæ.
Papaveris.
Plantaginis.
Sem: quatuor frigid.
Majoris.
Minoris.
Saccarum.
Amigdalarum.
Uva paſſa.
Amillum.

Spices, viz.

Cinamomium.
Macis.

Piper

Piper.
Cloves.
Nuces Muſcatæ.

Gummes.

Guaicum.
Opoponax.
Bdellium.
Amoniacum.
Sagapenum.
Galbanum.
Myrrha.
Maſtiche.
Laudanum.
Storax calamintha.
Liquida.
Beniamen.
Tragagantum.
Pix navalis.
Reſina.
Succinum.

Other needfull Simples of divers kindes.

Cera citrina.
Mummia.
Sperma ceti.
Sanguis Draconis.
Lupinis.
Cantharides.
Camphora.
Spodium.
Sumach.
Galls.
Bolus vera.
Bolus communis.

Minerals.

Antimonium Stibium.
Sulphur.

Alumen rochæ & uſtum.
Vitriolum commune.
Vitriolum album.
Vitriolum uſtum.
Lapis prunellæ.
Ceruſa venetiæ.
Lithargyrum auri.
Viride æs.
Tutia.

Bacci { *Juniperi.* *Lauri.*

Ferina { *Tritici.* *Fabarum.* *Hordei.* *Furfuris.* *Volatilis.* *Ammille.*

Herbs moſt fit to be carried.

Herbæ { *Roſmarinus.* *Majoranus.* *Mentha.* *Melilotum.* *Salvia.* *Thymum.* *Abſinthium.* *Carduus benedictus.* *Melliſſa.* *Sabina.* *Scordium.*

Radices { *Althea.* *Raphani ſilveſtres.* *Peritrum.* *Angelica* *Conſolida.*

Album grecum.

If the SURGEONS MATE cannot trimme men, then by due consequence there is to be a Barber to the ships Company, and he ought not to be wanting of these following necessaries.

One Barbours case, containing,

Rasours foure.
Scissers two paire.
Combes three.
Combe-brush one.
Eare-picker one.
Curling Instruments.
Turning Instruments and Spunges.
Mullet one.
Gravers two.
Flegme one.
Paring knives two.
Looking glasse one.

Aprons three.
Shaving towels twelve.
Water-pot one.
Sweet water one.
Washing-bals lesse or more.
Hoane one.
Whet-stone one.
Basons two.

And what else is necessary to the Barbers profession, as the expert Barber better knoweth.

Certaine

Certaine briefe remembrances touching the particular instruments for the Surgeons Chest, and the uses of the same.

And first of the Incision knife.

THe uses of the incision knife are many: namely, to enter the *cutis* or skinne upon very just cause; wherein I advise the Surgeons Mate not to be too forward, or too rash, but to take good advice, namely, if the Patient may by any better way receive health, that he forbear incision, if not, let him proceed in the name of God. But note well, that this instrument is farre lesse used amongst discreet Artists of our time, then it was in former ages: for it was ever accustomed to be at hand for the opening of any Apostume suppurated, many of which now are farre more conveniently done by caustick medicines. For in truth it is a grosse errour in the Surgeon, and painfull to the Patient (ordinarily as some do) to open Tumors by incision, and put tents into the orifice, by which occasion in short time the Artist is enforced either to new incision, or to dilate the orifice with a Spunge, or Elder or Gentian rootes, thereby also including the peccant matter within the apostumated part, from one opening to another, which ought to have continuall passage, whereas the caustick medicine saveth all that labour, with great honour to the Artist, and no small profit and convenience to the diseased. But as touching small Apostumes in the mouth, throat, and gummes, incision is best: in which case I hold a fine launcet is most comely, and much fitter then a larger incision knife: And note, that in all incisions whatsoever are to be made in any part of the body, it behoveth the Surgeon to regard if he incise deep, that he do it as neare as he can according to the length of the Muscles; and also it is commendable in an Artist to be very carefull to hide his sharpe instruments (as much as is possible) from the sight of the Patient, for many reasons too long to recite.

Great care to be had in incision.

Incision by caustick medicines.

Tumors not to be incised.

Evils attending Tumors incised.

Apostumes in the mouth to be incised rather with a Launcet then with a knife.

Cautions in incision to be observed.

cite. Onely in concluſion note, that it is very fit and needfull for the Surgeon to have at the leaſt two inciſion knives, one greater, one leſſe, and that he keep them ſharpe and clean; but let them not be ſo thinne grownd in the edge as the Raſour, for then they will deceive the workman, when he hath moſt uſe of them. Thus much at this time of the inciſion knife.

Two inciſion knives needfull.

Of the diſmembring knife, and of the Catling.

Their uſe.

THeſe two inſtruments are to be uſed in diſmembring; as namely, they are to amputate, or to take off any offenſive member or part of mans body: I meane all the fleſhie part, or whatſoever may be inciſed even to the bone: And alſo in diſmembring of the legge or arme below the knee or elbow, you ſhall have occaſion to uſe the inciſion knife to cut aſunder betwixt the bones or elſe where, whatſoever the Catling or diſmembring knife cannot come at by reaſon of their greatneſſe or unfitneſſe; and then proceed to the ſawe. To conclude, one of each kinde may ſerve for one Cheſt, ſo they be ſharp and fitly grownd, and not too thinne edged. They are both very needfull inſtruments to be at hand upon all occaſions in the Surgeons Cheſt.

The inciſion knife required in diſmembring

Of the Raſour.

The uſe of a Raſour.

THere needeth little to be ſpoken of the uſe of this inſtrument, for that all men know well the uſe thereof, which is chiefly to ſhave away haire where need requireth: onely let me put the Surgeons Mate in minde, that if he forget to take in his Cheſt a good Hoane, as alſo a good Whetſtone, he may eaſily lack the neceſſary uſe of a good Raſour, when he hath moſt need of it at ſea; yea, though he carry ten Raſours with him. In Germany it is a principall proof-peece of maſterſhip in Surgerie, for a young man to take a baſe and ordinary knife, and to fit it to ſhave a beard; and alſo to make a Launcet himſelf which will enter ſmoothly: and it is very great commendations in a young Artiſt to have ſharp and clean inſtruments of all ſorts, and to keep them ſo, and chiefly Raſours and Launcets; and it is a great grace to a young Artiſt to have good Raſours and Launcets, and the contrary may do great hurt. Wherefore I adviſe each young Artiſt to be practiſing often with the worſt of his knives and Launcets, till he be able to make them ſerviceable.

A hoane and a whetſtone is very neceſſary.

Germane Surgeons praiſeworthy for Raſours and Launcets.

Inſtruments kept clean is commendable withall.

Negligence blame-worthy.

But I finde that pride and ſlothfulneſſe hath taken ſuch hold of many young Artiſts, that they diſdaine and neglect the meaneſt parts of their calling, as things of too baſe account for them, which indeed are as behovefull often times as thoſe which ſeeme of more conſequence. I ſhall never for my part account him a fit ſea-Surgeon, which cannot, or will not amend his Launcets and Raſours, which I hold to be an eſpeciall credit to him, and no leſſe advantage to his Patient. Thus much at this time of the uſe of the Raſour.

of

Of the Trapan.

THe Trapan is an instrument of great consequence, where there is just occasion of the use thereof; but it is seldome well used, and it only attendeth the fractures of the *Cranium*, and yet scarce one in ten have just occasion of the use thereof. For we see daily many grievous fractures healed without it, and many more would be if no such instruments were; since the perfect use thereof is not every mans work, neither in every fracture (as I have said) needfull to be used, because of many dangers attending the unskilfull or untimely use thereof. I advise the younger Surgeons to consider well afore they set the Trapan, whether it may not be forborne: but if a fracture happen in the *Cranium*, with contusion and depression of both the tables thereof, so that by other conjoyned and apparent accidents, as want of some of the senses, great vomiting, with contraction of sinewes, convulsions, or the like just reasons appeare, thou being forced to use the Trapan, proceed warily as followeth.

The use.

An advertisement whether the Trapan be necessary to be used.

First, be sure the instrument of it self be good, and of the best making, and that it be cleane from rust, and perfect without faults; for those Trapans which are brought from Germany are not to be used, nor yet to be tolerated.

1 If it be requisite observe first the instrument it self.

Further, of the place were it is to be used or placed upon. It is not alwayes directly where the blow lighted, but sometimes a fracture is found a great distance off: wherefore this work causeth no small discretion in the attempting thereof. Your direction therefore, the skin being not broken, must be according to the apparent indication of the part, the due consideration of the complaint of the Patient, together with your own feeling with your fingers well respected. The place therefore found where the fracture is, it then followeth that the haire must be first shaved away, or at least (which is not so good) cut close for a good distance about the grief, 4 fingers broad or more; which done, have ready your medicines to binde up the wound again, as namely, your spunge, your ligature, with hot water, and each other things necessary for a dressing fit, which in another place I intend to set down. And if so be that the flux hinder not, use wine and hony to foment the grieved part after the incision be made, it will do well if it be in the ship to make also a restrictive ready, namely of bole with water and vineger, if an egge be not to be had; but an egge in the restrictive will make it the better. And further, if that the flux will not be stayed by an ordinary kinde of restrictive, then take the stronger restrictive powder which in due place is to be mentioned. And for present applications unto the wound, you have good choice of two sorts; namely, *Oyle of Roses*, and *Mel Rosarum* mixed warme, or the *Linamentum Arcei*, which in speaking of wounds of the head, I will touch (God willing) more largely.

2 The place where it is to be applyed. Great care required in the use of the instrument.

3 The haire must be shaved off.

4 Have all medicines in a readinesse.

5 Observe the flux.

All things therefore in readinesse, and the Patient placed close and warme from the aire, and having two appointed to stay his head, your incision is either to be made directly crosse, or in the forme of this Romane

6 Care of the Patient in dressing needfull.

7 Incision must be.

8 The Pericranium remove.

T: and when the *cutis* is divided, together with *membrana carnoſa*, or fleſhie membrane, the *Pericranium* or *Panicle*, covering the ſcull, is alſo to be taken away, that the fractured part be bare; then ſet the Trapan thereon, but the pin thereof is alwayes to be ſet on the whole part of the *Cranium*, whereby the moſt part of the Trapan (by conſequence) ſtandeth on the whole bone, but ſo that almoſt half may ſtand on the fractured part of the bone. This being thus warily ſet, begin eaſily to turn about the inſtrument, till all the teeth have taken good hold round, then take up your Trapan againe, and take out the pin in the midſt, and ſet on the other part again as before, piercing and turning ſtill, till you have pierced through both Tables, which is eaſily to be felt by the piercer: then gently take out the piece which commonly cometh away in the midſt of the inſtrument, not regarding that all the fractured part be taken out, or all coming away: Neither ſhall it alwayes be needfull that the depreſſed part be preſently elevated, except it may very ſafely and eaſily be done; for nature will admirably bring to paſſe the elevating and ſcaling of the reſt of the fractured or depreſſed bone in due time, if thou follow onely a good method of applying comforting and convenient medicines to the wound, with apt Ligature. Neither ſtrive in ſetting the Trapan, without good reaſon, to uſe the greateſt head of the Trapan, which hath commonly three or foure heads: for if nature onely have a breathing, it will wonderfully help it ſelf by purging the contuſed bloud through the orifice, by way of matter or excrement. Many worthy Artiſts there are at this day living, which have performed great cures in fractures of the *Cranium*, and yet never knew the worthy uſe of this inſtrument. I have my ſelf with a ſhort carving knife twiſe made as good ſhift as if I had had a Trapan ready, and thereby cured two dangerous fractures, by cutting as much of the *Cranium* away, as that the contuſed bloud had onely vent. The *Germane* Surgeons uſe no Trapan, that ever I could ſee in my eight yeares living amongſt them, though they both ſpeake and write of it. But foraſmuch as it is apparent, the work of a Trapan is very good, I therefore would adviſe a young Artiſt to make ſome experience firſt upon a calves head, or a ſheeps head, till he can well and eaſily take out a piece of the bone; ſo ſhall he the more ſafely do it to a man without errour when occaſion is.

The ſetting of the Trapan.

The piercing with the Trapan.

Nature much helpeth in this work.

A caution in ſetting the Trapan.

A Hiſtory.

Speciall skill required in the operation.

Note.

Note alſo, that where a fracture is accompanied with a wound, it ſhall not be needful to inlarge further then will ſerve to ſet the Trapan; for, as too little breathing is dangerous, ſo are too great wounds; making the Artiſt to be eſteemed Butcher-like and hatefull, and is often alſo very dangerous and deadly.

Note wherein curation of fractures conſiſts.

Further note, the good ſucceſſe of the curing of the fractures in the *Cranium*, as alſo in all other fractures, ſtandeth very much in good Ligature and eaſie medicines, which I wiſh each young learner with diligence to practiſe. Thus much of the Trapan.

Of the Lavatorie.

The uſe.

THe *Lavatory* is a neceſſary inſtrument to elevate the depreſſed *Cranium*, in which work, as I have written in the former Chapter of

of the uſe of the Trapan, I adviſe no young Artiſt to be too curious or haſty to force the depreſſed bone too much, where there is no evil ſymptomes: for a depreſſed bone will often times help it ſelf, by riſing and ſcaling, admirably; and yet it is many times of very neceſſary uſe, and a fit inſtrument in the Surgeons Cheſt.

Cautions to be obſerved.

It is very neceſſary.

Of the Head-ſawe

THe *Head-ſawe* is an inſtrument with which a vent may be given ſometimes through the *Cranium*, and thereby the uſe of the Trapan may be happily forborne: and for that reaſon this inſtrument may have a place in the Surgeons Cheſt: ſometimes alſo a ſmall ragged piece of the *Cranium* may ſo hang, that this inſtrument may be uſed to ſawe it away. But I wiſh young Artiſts not to be over-buſie in ſawing, plucking away, or raiſing the fractured *Cranium*, as is ſaid, more then of meere neceſſitie they are urged unto, leſt fearfull and ſuddain accidents follow, not to be avoided nor ſtayed: If ought be meerly looſe, and in ſight, take that away; if not, forbeare to pluck much at firſt, for nature is exceeding beneficiall in ejecting unnaturall things in that part, and very froward if thou uſe force whilſt ſhe is weak her ſelf.

The uſe.

Good heed required in ſawing.

Of the diſmembring Sawe.

THis great and terrible inſtrument, onely ordained for amputation or diſmembring, is fitting to be alwayes ready and clean kept in the Surgeons Cheſt, with two blades thereunto, though one good blade well uſed will ſerve an Artiſt for his whole life: but foraſmuch as it is onely appointed, as is ſaid, for the work of diſmembring, I referre the Reader to a ſubſequent Chapter of diſmembring, where I ſhall at large recite the uſe thereof, and (having ſmall leiſure) will now haſte to the next.

Inſtruments muſt be ready at hand, and kept clean.

Of the diſmembring Nippers, and of the Mallet and Chizell for diſmembring.

THeſe inſtruments having coherence with the precedent, namely, the *Sawe*, are meerly invented, as the former, for amputation chiefly, and are appointed to the fingers and toes, as the other is to the legges and armes. I need ſay no more of them in this place, but that they are good neceſſaries upon occaſions in the Surgeons Cheſt, being kept well. Nevertheleſſe, in want of ſuch at ſea, the Ship-Carpenter for a need can alwayes furniſh the Surgeon in a ſhort warning; and therefore they may as well be forborne as any other I know in the Cheſt, if allowance grow ſcant.

The uſe.

No great need of them.

Of the Speculum oris plaine.

THis *Speculum oris* is that which taketh hold on the tongue and under the chin at once, and is very neceſſary to hold open the mouth for the better applying medicines to the throat: and this inſtrument is

The uſe.

This is very necessary. is of no other use at all in the Surgeons Chest; yet because the worke is frequent at sea, there is much need of such an instrument in the Surgeons Chest.

Of the Speculum oris with a screw.

Frequent in use, and very profitable. THis *Speculum* serveth to screw open the mouth, which is often very needfull at Sea, as well in the cure of *Lethargie* and *Scurvie*, as in many other dangerous cases; and namely, sometime for conveying nourishment into the mouth of the Patient: sometime also for the bringing in medicines of severall kindes, too long to write of; wherefore it may not well be missing in the Surgeons Chest.

Of the Speculum linguæ.

The forme of speculum linguæ THis *Speculum linguæ* is a small instrument which may be carried in a plaister box: It is formed like a splatter or spatula at one end, one-

The use thereof. ly it is hollow and cut through, and the other being formed for scraping the tongue, is very fitting in fevers, and furring of the tongue. The broad end is used to hold down the tongue at some times as you desire, either to inject any liquor into the throat, or to apply any other medicine to the mouth or throat; though some use in place thereof a splatter, yet

The commendation of it. this instrument is farre steddier, better, and cleaner; and being through hollow, as is said, the tongue is not apt to slip or slide from under it any way.

Of the Speculum Ani.

The use. THe *Speculum Ani* declareth his use by his name, belonging onely to *ano* or the fundament, to open the same as occasion shall be offered, upon every grief or disease happening thereunto, and cannot well be forborne in the Surgeons Chest. For if there happen in the orifice of the

Reasons for the necessitie of it. fundament any excoriation or exulceration, then can nothing better be

1 brought to the grieved place, then by this *Speculum:* neither can the grief

2 be seen without it: the manner of the opening of the fundament therewith needs not to be described. For I hold none so witlesse which cannot make use thereof, when they once see but the instrument; and yet let not the young Artist be too busie in using of this instrument without good reason For if by injection, without it he can cure the Patient, it

An advertisement for the right use of the instrument. is much better so to do, and much easier to the Patient then to use the instrument. One principall reason is, the Patient hath not alwayes power

Note 1. to help himself by giving way to the safe use of this instrument, for the

2 Sphingtures or gathering muscles of the fundament, will not of themselves without resistance be opened, but often will against the Patient his own will make such unexpected resistance, that if the Artist which dilateth give not back, he may bruise the said muscles, and thereby make new work: for it ought well to be had in minde how dangerous it is to the life or health of the Patient to use needlesse force in that part.

Of

Of the cauterizing Irons.

THe ancient Chirurgions of former ages used these instruments farre more then in these our times : The necessarie use of them in many cures is now forborne, by reason the terrour thereof to the Patient is great, yet the use of them is very needfull, as namely, to cauterize any veine or Arterie in strong fluxes of bloud, which cannot otherwise be staied. And in the Epilepsie or falling sickneſſe they are often used with good succeſſe : also they are good to make a funtanell or Issue in the hinder part of the head, or in the necke; so likewise in the cure of the Lethargie or Apoplexie, if upon learned and good advice there be held just cause so to doe. But they have beene used commonly by the ancient Surgeons of former ages for the opening of Apostumes; and surely they are better in my judgement for the good of the Patient in many Apostumes then the Launcet : yet I confeſſe I make no use of them my selfe in that kinde, becauſe of the feare they put the Patient into, and for speech of people, who are ready to scandalize an Artist upon each light occasion. These instruments have likewise beene commonly used by the ancients in dismembring, namely, to cauterize sometimes the whole end of the stumpe, and sometimes onely veines and arteries, and doubtleſſe with good warrant they may yet be so used; but in that case they are wholly now forborne, for reasons aforesaid, and for that a more pleasant course is knowne both for the Patient and the Artist; yet I conclude it is very fit the Surgeons Cheſt be furnished with divers sorts of them, if the allowance of the Surgeon will admit it.

The use.

When & where the use is required.

The benefit of the instrument feare and scandall hindereth.

Of Storkes bils, Ravens bils, Crowes bils, Gooſe bils, and the Terebellum.

THese last recited instruments have their severall uses, to draw out bullets, arrow heads, broken bones, or whatsoever else of unnaturall things are gotten into any part of mans body. In the use of each of them great care and respect is to be had, not to use extreme violence on the sudden to draw out the offending thing, for it is not alwaies necessary to draw it forth by the way of the first wound, but perhaps it may with farre leſſe danger bee thrust quite through the member, and taken out on the other side. Sometime also the offending thing, as a bullet, may be so fixed in a bone, or otherwise betwixt bones, that it is farre better not to move it, then to offend the part where it is fixed or seated: sometimes also Nature will better cast it out then thou canst by art devise to doe, and over forwardneſſe doth often as much hurt as good. It happeneth also sometimes, that the orifice of the wound is to be dilated, or inlarged to draw out a looſe bone, or other thing. In such a case if it be meerely looſe, it is best to take it out the first dressing; but if it be looſe at one end onely and fast at the other, except thou without flux of bloud or danger of the member canst remove it, forbeare and give nature leave to doe her office, and have patience. For otherwise young

The use.

Care in their use is to be had for divers reasons.

The drawing out of a looſe bone.

God and man are to be sought unto for knowledge.

Artists which are forward to teare, cut, and search too boldly, do often that harme which is unrecoverable. To conclude, since experience and reason make an Art, if thou have reason be carefull to aske counsell both of God and man, that thou maist answer thy deeds both here and in the world to come. For the subject of thy Art is the most precious of Gods creatures. Thus much for the use of the aforesaid instruments at this time.

Of Incision sheeres.

Incision sheeres are rather for forme then necessary use.

The seldome use of the Instrument.

An Incision knife will excuse the want of the sheers.

THere is in every Art or Science a due respect to observe the having of some things for forme and order sake; and if any instruments in the Surgeons Chest may be termed for forme sake to bee placed there, the Incision sheeres are of that kinde: for they are generally desired, but scarce once in a mans life worth the usage. For admit there were an occasion to dilate or inlarge a wound; it is farre better done with the Incision knife, which justly will obey the Artist his will, without more or lesse doing then need requireth; and this instrument is no way so justly to be limited. Wherefore though I have here nominated it, I forbeare any perswasive words to urge the use of it, but leave the Artist to his will therein.

of the use of Probes of severall sizes.

Probes very needfull.

The divers manner of their use.

The ends of their use.

Great danger in the ill use of the Probe.

The use of a long Probe.

To draw the Probe thorow the body wounded is evill.

THe use of a Probe, can no way be forborne in the Surgeons Chest: for no Chirurgicall worke is well and artificially effected, without some occasion of the use thereof, more or lesse; as namely, oftentimes it is to be armed with dry soft lint to cleanse a wound: sometimes again, as is aforesaid, armed with drie lint, and dipped into some lotion, oile or liquor, therewith to mundifie, corrode, or heale the griefe, according to the due occasion thereof, and will of the Artist: sometime to inquire the depth of a wound, ulcer, or fistula; in which worke many times great wrong is done by unconscionable or ignorant Surgeons, to their Patients, by forcing too far the Probe, thereby to make the griefe appeare deeper, which I advise young Surgeons to make a conscience of: for by such abuse, the Patient is many times greatly indangered of his life. Further, some use the longer sort of Probes, with eyes like needles, in wounds that penetrate through a member; yea, some are so hardy they will put them through the Trunk of the body, the Patient being wounded through the body; all which I hold to be very idle; for certainly it must be both very painefull, fearefull, and dangerous to the Patient; and the custome of such Artists is to draw laune or a fine linnen cloth, being put into the eye of the Probe, (or stamule as some terme it) and dipped in some artificiall balme, thorow the member; yea, and some are so wise in their owne conceits, that they leave the said laune or linnen cloth in the wound from one dressing to another, which for my part I utterly mislike; for I know in all wounds nature striveth to make unition of the parts divided, & whoso keepeth asunder the parts by such courses,

it

it ſhall repent him, except hee be graceleſſe. My ſelfe have had reaſonable experience in piercing wounds, both through the trunke of the body, and through the outward members, and have ever contented my ſelfe, in putting in to each orifice a ſhort and eaſie tent, which I commonly make of *emplaſtrum ſtipticum Paracelſi*, or ſome other good plaiſter ſpread on a clout, and rolled gently tentwiſe, and ſo applied dipped in Balme, the tent being but of halfe an inch or an inch long at the moſt: of which I never yet repented me, except a broken bone be to come out, and then I alter my intention according as the occaſion enforceth, with other anſwering and methodicall courſes due to healing in be obſerved: which in their places (as time will permit) ſhall be touched God willing. No more at this time of the uſe of Probes.

Of Spatulaes great and ſmall.

SPatulaes or ſplatters, as they commonly terme them, are moſt needfull inſtruments to ſpred unguent, and emplaiſters withall, and alſo to ſtirre about, and the better to compound any medicine on the fire; and to this latter worke the Artiſt may make wooden ſplatters, which will be farre fitter and cleaner then thoſe of Iron: The Surgeons Cheſt cannot well be without both ſorts, and variety will doe well; wherefore they cannot be forborne in the Cheſt.

Their uſe.

Splatters of wood aſwell as of iron neceſſaric.

Spathula mundani.

THis inſtrument is newly deviſed by my ſelfe, to ſerve upon any occaſion of extreme coſtiveneſſe, which often hapneth to ſea men, ſo that no purging medicine neither upward nor downeward adminiſtred or taken, will worke; which my ſelfe have more then once ſeene, in which caſe the fundament, with the *ſpeculum ani* aforeſaid, if occaſion urge, is to be opened, and the ſpoone end of this inſtrument put in, and the hard excrements therewith drawne out; which in ſome bodies are ſo drie that they may be poudered. This diſeaſe killeth many, and may by the diligent Artiſt bee eaſily cured as aforeſaid. This recited inſtrument, may be eaſily forced into the fundament without the *ſpeculum ani* to conduct it, being annointed or greaſed, and firſt warmed a little. This griefe commeth now and then to men which have the ſcurvie, and it often ſo inflameth, and excoriateth; yea, and ſometime putrifieth the Arſegut or *Longanum*, that the partie either dieth thereof, or the ſharpe humidity proceeding by reaſon of the inflammation and excoriation thence mentioned, maketh paſſage for the aforeſaid hard excrement, after which followeth a moſt extreme and painefull flux of bloud, which for the moſt part killeth them: and yet is it often ſeene, that the party being in time diligently attended (by God his mercy) may have comfort and remedy for it. Theſe hard excrements taken away, the body returneth to the naturall former habit againe, &c.

A new inſtrument.

The uſe.

Coſtiveneſſe dangerous.

Great care to be had in the cure of this diſeaſe.

Pacis, Pullicans, Punches or Forcers, Crowes bils, Flegmes, Gravers and Files for teeth.

The uſe.

ALl theſe recited inſtruments, and each of them are needfull in the Surgeons Cheſt, and cannot bee well forborne for the drawing of teeth, foraſmuch as the cleanſing of the teeth and gums, and the letting of the gums bloud are often no ſmal things for keeping men in health at Sea, and ſometimes doe ſave the lives of men both at Sea and Land: For we ſee that from an Apoſtume begun under a rotten or hollow tooth, for want of drawing of the ſame, ſometimes proceedeth great ſwellings in the face, or in the amygdals and throat, and the party is ſuffocated and dieth: Likewiſe by undiſcreet drawing of a tooth, either the jaw is broken, or ſome other bad accident is provoked. Wherefore I hold none worthy to goe for a Surgeons Mate to Sea, who is ignorant of tooth drawing; and I eſteeme him an unworthy Surgeon (how high ſoever hee beares his head) that can draw a tooth well, and will upon need at Sea ſcorne or deny to doe it.

Skill in drawing of teeth required.

The manner how to draw a tooth aright.

For drawing of teeth, the true manner is, firſt well to divide the gum from the tooth; in which worke if you be wary, you neede not launch or cut the gum at all, but onely with the round ſharpe pointed end of the phlegme, to compaſſe the tooth cloſe, piercing by little and little ſtill ſomewhat deeper, but ever keeping round and cloſe to the tooth till you feele your phlegme be as low as the jaw bone, in which time you may do well then to conſider what kinde of inſtrument you will take to draw it, and if it be the furtheſt tooth of the jaw either above or below, or that it be a ſtumpe, except it bee of the foremoſt teeth, the *pullicans* are the fitteſt inſtruments to draw with; if it bee any other of the great grinders, and that there bee reaſonable hold on the inner ſide, be it on the upper or lower jaw, it is beſt done with the *pacis*; but you muſt be wary you draw not a large tooth with a narrow *pacis*, for ſo you hazzard the breaking thereof; wherefore two ſorts of *pacis* at leaſt are needfull in a Cheſt, and the like of *pullicans*, & *punches* or *forcers*, for you muſt fit a large tooth with a large inſtrument. Concerning the foremoſt teeth and the eye teeth they are ſafeſt done with the Forcers, or punch, provided that they be upon the upper jaw, and for them of the lower jaw being ſtrong, with narrow *pacis*. Note further, that as well the eye teeth as alſo the foreteeth are very apt to breake in drawing, for that they alwaies are deepe, wherefore there is great care to be had in the placing your inſtrument, of what ſort ſoever it be, and you muſt in raiſing the tooth bee very carefull for feare of breaking the ſame, or offending the jaw. Wherefore for one generall rule ere you draw a tooth, forget not to thruſt downe your inſtrument as low as you can poſſible towards the root of the tooth, and that you gripe it ſteady and faſt, that as you ſeeme ſomewhat to wrench your hand, you may more intend to plucke the tooth upward, according to the ſituation of the tooth, for ſaving the jaw. Alſo when your inſtrument hath hold on the one ſide of the jaw, you muſt with your other hand take hold and ſtay the jaw. Beware alſo you be not too ſud-

The uſe of a Phlegme.

The uſe of the Pullican.

The uſe of the Pacis.

The uſe of the Forcers and Punches.

Reſpect in placing the Inſtrument to be had.

How to place this inſtrument.

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2
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4

den

den or rash in raising or drawing the tooth, but that you feele as it were the forme of the situation thereof in your plucking out of the same; for some great teeth, being farre wider in the lower end then elsewhere, if you bee too rash in raising them from their place, you are sure either to breake them or to damnifie the jaw bone. And in truth in that I have often wondered at the goodnesse of God, when I have viewed a tooth with three large stradling roots or fangs, forced out at a round narrow hole; which fangs are no way flexible: so that it must follow of necessitie the jaw bone hath opened it selfe (though by force) to let them out; and yet without harme to the Patient, or helpe of Art, closed again, and in three daies perfectly whole. Concerning the metall your instrument ought to be made of, the Forcers or Punches, are best to be made of the hardest steele; the *pacis* and *pullicans* of steele softened, that they may not pinch too sharpe: My selfe have (to my paine) proved experience in my owne head twice; namely, the harme of steeled hard *pacis*: which pinched off the heads of two of my owne teeth, and left the roots behind; which maketh me the more to commiserate others in that behalfe. After the drawing of teeth some put vineger, and some put other liquors into the mouth, but vineger I utterly mislike: I never use other thing but salt betwixt my fingers, thrust into the place where the tooth stood, and then with my fingers close againe the gum easily together: For in my opinion vineger is hurtfull in such cases; but if sometimes the party be not in ease presently, then I use to heat a little of my ordinary lotion, and give it the party to keepe hot in his or her mouth, holding it on that side where the griefe is, which for the most part bringeth present ease.

Gods mercy in working that which Art cannot.

The metall of the Instruments ought to be respected.

A reason drawn from experience.

What fit to be done after the teeth be drawn.

Concerning the *Crowes bils*, they are only used to take hold of any snagg of a tooth or bone loose in the jaw, or elsewhere in the body where occasion may urge.

The use of the Crowes bils.

Phlegmes have not only their uses in teeth drawing, but also to launch and cut the gums to let them bloud, or to cut oftentimes the superfluous flesh of the gums away, it being too ranke, as in cases of the scurvie, the cure whereof (God willing) shall in another place be spoken of.

Another use of Phlegmes.

And for *Gravers* they are used to take scales off, being a hard substance which use to fix themselves to the teeth, causing them to become loose and stink, or be black in the mouth; or to help to scrape or cleanse a bone in any other part of the body, as just occasion is offered.

The use of Gravers.

The small *Files* are used either to file a small snagge of a tooth, which offendeth the tongue or lips, or to abate any end of a bone else-where in the body which is fractured.

The use of Files.

One Bundle of small Instruments usually brought from Germanie containing divers kinds, as Mullets, Forceps, Hamules, or Hookes, Eare-pickers, Sikes, Small spatula's, &c.

FOrasmuch as the unexpected casualties that hapneth to a man are innumerable, I see not how the Surgeon can by his wit devise instruments or remedies for all.

Where-

The use of the Germaine instruments.

Wherefore for that a haire or a mote in the eye, a stone in the eare or nostrels, a pin or a bone in the throat, a spill in the finger, and divers like casualties unfortunately happen on the sudden, it is very necessary for the Surgeon to be furnished with such like needfull instruments, as are commonly conteined in the Bundle mentioned: for this Bundle conteineth at the least 20. small instruments of strange formes, at first devised (no doubt) by learned and diligent Artists, and doe well garnish and set out the Surgeons Chest, and are many wayes very needfull for any the occasions mentioned.

of the large Siringe conteining one wine pint, commonly called the Glister Siringe.

The necessitie of this Siringe.

THis worthy and well devised instrument so needfull in the Surgeons Chest, I wish each Surgeons Mate were perfect in the use thereof: for it is so necessary and so comfortable an instrument to him that hath need thereof, and so ready, neat, and easie for the workeman, as surely no instrument in the Surgeons Chest, in my opinion, is like to it. For there are two principall and capitall evils, which chiefly hasten the ends of many of our loving Countreymen at Sea, not onely in the East Indies, but also in all hot Countries: the first and principall is extreme loosenesse and weaknesse of the stomach, and intralls, causing a flux of the belly; the other is extreme costiveneſse: in both which this instrument is most necessary. Provide therefore that you bee sure to have one at hand, and that it be alwaies ready: also that you have severall pipes thereto; that you arme it well with good tow; that when you have used it, you wipe it cleane, and hang it up in your Cabin in two parts being drawne out, namely, the staffe and the barrell each by it selfe: for if it bee kept close, it will be mustie and the tow rotten. There is also to be had in readinesse a crooked necke much like an elbow, belonging to the same instrument, that how crooked soever the Patient lye, the medicine may be administred to him: and therewith also any man may give himselfe a Glister very easily, without the helpe of another.

The use thereof.

The manner of keeping the Siringe.

More pipes then one with a crooked necke needfull.

Necessary rules.

First of the tow in the Siringe.

2. Of the Glister pot.

3. Of putting in the Glister into the Siringe.

4. Of stopping the Siringe filled.

5. Put on the pipe.

6. Anoint it with oyle or Axungia.

The principall things to be observed in fitting the instrument, is, that the towe, within the staffe mentioned, be even and full and close put on, that no drop of liquor can come out behind at the staff's end; which is as easie to doe as in a small Siringe. And you must also have a Glister pot of pewter, but one of brasse were better, for feare of melting. Your glister pot should be made with a snout or lip, and conteining one pint and a halfe, the better to deliver in the liquor at the narrow hole of the Siringe without a funnell. When you would put in your medicine, you must draw down your staffe as low as you can, that there may be the whole roome to conteine the substance which you have ready, namely, your Glister, which put in, have ready a corke to stop the hole you put it in by, then may you lay downe your instrument till you be ready to use it. There is no other thing in the delivering it into the body to be observed, save that you put on the pipe, annointing the end of it with some fat thing, or diping it into the oile swimming in the Siring. And when you

are

are ready, having some towe about the head of the said pipe, wringing it hard in, thrust it to the head, laying the Siringe in an even position if it may be, and then put it from you till all be in the gut: then let the party turne himselfe on his backe, forcing himselfe by all possible meanes to retaine the medicine given him for one houre if hee can. Sometimes also it falleth out, that by meanes of the hardnesse of the excrement in the gut, the holes of the Siringe pipe is like to be choaked and hindered from the delivering of the medicine; in such a case (the said excrement being onely clammie and not fully hardned) put upon the end of your Siringe pipe that first entreth the gut over the holes of the same pipe, a thin oily clout that may cover all the holes, and so put it in, clout and all, thrusting the same up to the head or thick part of the Pipe; then a very little (as it were) draw backe your hand, and deliver your Glister with some reasonable good force, thrusting the Pipe in the delivery close up to the body, that nothing come backe; the Siringe being drawne out let it be washed, wiped, and drawne out of the barrell, as I have said, and so in two parts hung up to be ready for the next occasion. But if you find such resistance in the gut, that your medicine by the aforesaid meanes will not enter, then with the afore mentioned *Spatula mundana*, draw out part of the hard excrements which hinder, and then proceed as beforesaid to give a Glister. Moreover, many are very weake and unfit to hold in their bodies any such medicine, except you with some towe, clout, or the like, will hold it in, they can take no benefit by a Glister: wherefore in such a case, you must be full of humanitie and Christian commiseration; not to be fine fingered, squeamish, or disdainfull, but consider your brother by your selfe. Concerning, the substance of a Glister, the quantitie to be given, and other necessary observations, of that kinde, in the Chapters of the cure of the *Flixe* and *Scurvie* I have written; to which place I referre the well desposed Surgeons Mate: and looke what for brevities sake I have omitted, the young practitioner must as I have done before him, either by reading, inquiring, or practising, and sometimes even by erring finde it out: and if he know more then my selfe, thanke God for it, and let him impart some to others, and not scorne this; for to such I write it not, but to the young and willing learner. Some may marvell, I multiply so many words concerning the *Glister Siringe*, and forget to mention the *Glister Bag and Pipe*, so good and ancient a work, and so long in use before the other. To which I answer; this worke is cleanlier for the Surgeon, easier for the Patient, and may bee delivered with greater or lesser force, as the Artist pleaseth; and this instrument will last, when the other will stinke and putrefie: and yet I deny not the other to be good, but not to be trusted to at Sea.

7 *Put towe about the Pipe.*
8 *Concerning the delivery of the Glister into the body.*

Excrement sometimes stoppeth the passage.

Note.

The use of Spatula Mundana required if the Glister cannot have passage.
What to be done if the body through weaknes cannot keep the Glister.

This Siringe is preferred before the Glister Bag and Pipe.

Thus much of the *Glister Siringe.*

Of the small Siringe.

IT might seeme a thing vaine to mention instructions herein: for what Barbers boy is not practised in the use of the *small Siringe*? Truely few, and yet many Masters to my knowledge erre grossely in the true uses

uſes thereof divers waies, all which were frivolous in theſe briefe notes to touch. Firſt therefore obſerve that when you uſe a *Siringe*, let it be clean; that it bee ſmooth at the end for gauling; that it be even armed with tow; that it go not by jumps nor too ſtiffe; and that you carry a ſteady and even hand in delivering it, and force it not over ſtrongly, except upon great reaſon. And if the griefe be in the paſſage of the yard, as in caſe of *Gonorrea*, often times there are *excoriations*, then in the putting in the *Siringe* it is needfull to reſt thy armes in the delivery thereof on the Patient his thighes, hee ſitting ſomewhat high, or ſtanding bowing forwards, and ſtrive not to fill the *Siringe* too full at once, for then thou canſt not eaſily and ſteadily reach it to deliver it: and the firſt time thou preſenteſt it, thou mayeſt if thou pleaſe make ſhort worke, and deliver it betwixt *glans* and *præputium*, that is betwixt the skin and the head of the yard, holding the forepart of the *præputium* cloſe together, if it may be held together, which ſerveth only to waſh without the paſſage. The ſecond time deliver into the paſſage ſo farre as well thou canſt reach; namely, to the end of the Pipe, if without great paine thou canſt effect it, reſting thy armes, as it is ſaid, and holding with the one hand the yard (as it were) in the midſt thereof, or behind the former part of the Pipe of the *Siringe*; namely, not meerely to the head of the yard, nor ſtreyning nor preſſing thy hand too hard, onely that the water injected may be kept in; for by that holding of the left hand cloſe, the water being artificially put in, will come to the neck of the bladder; which done, keep it ſo in till thy *Siringe* being drawn out, can be filled once againe, and deliver it as the other was, without removing the hand that holdeth; and that ſecond time, the water will come into the bladder; and obſerving duely this forme of injection, thou ſhalt caſt in as much water as thou pleaſe into the bladder without paine, with onely an ordinary *Siringe*; whereas caſting it in and holding the *præputium* cloſe as is uſuall, aſſure thy ſelfe the water will never come at the necke of the bladder, nor further then the pipe is put in; whereas, often the defect is in the necke of the bladder, and thy medicine commeth not there. Alſo, let not thy medicince be too hot which thou injecteſt, for that is dangerous, and cold is alſo bad; ſo hot as piſſe is the true temper, or a little warmer. Beware alſo of *Mercuriall lotions*, I meane any which have *Mercurie ſublimate*, *precipatate*, or otherwiſe prepared in them, for though they have good qualities, yet they are (upon my knowledge and experience) dangerous, uſed by way of injection into the yard; for they will utterly alter and overthrow the naturall faculty of the yard, and will offend the erection of *Virga*, and ſo calcine the ſame, that it ſhall become impotent to his naturall worke. I know it, and yet they may be with good ſucceſſe uſed in curing *malignant ulcers* twixt *glans & præputium*, or elſe-where upon the yard, as daily uſe of them declareth. Concerning *Lotions* or *Injections*, they ſhall, God willing, in another place bee mentioned. Alſo, concerning the generall uſes of the *Siringe*, they are not alone limited to *Virga* or the yard, nor to *venereall cauſes* onely; but they are alſo of eſpeciall good uſe in *wounds*, *ulcers*, *& fiſtulaes*; as alſo for griefes in the mouth and throat, and may not therefore be omitted in the Surgeons Cheſt: wherefore I adviſe

Inſtructions for the uſe of the ſmall Siringe.

How to uſe this Siringe in the yard.

How to deliver an Injection.

Errors in injecting manifeſted.

Mercuriall injections to be rejected.

The evils the caſe.

Injections not proper onely to the yard.

The neceſsitie of the Siringe.

advise at the least two if not three, each with three pipes, to be ready in the Chest upon any occasion.

Of the Catheter, together with wax lights to search the conduit of the bladder.

THe *Catheter* may well be numbred one amongst the needfull instruments in the Surgeons Chest; for if obstructions happen, either in the passage of the urine, or neck of the bladder, through slime, gravell, the stone, or like accident, which by the artificall use of a siringe cannot be removed, then is this needfull instrument to be used, as also to make search for the stone in the bladder. *The use.*

If therefore there be occasion to use it, put it in gently as followeth, namely, with the crooked or dependent part thereof downward, so far as it will be put in, being first anointed with a little oyl of *Almonds*, or some fresh grease, or oyl for want of the first rehearsed; and being put in as farre as you can without much force, then feele by the root of the yard neare the fundament with thy fore finger, anointed with butter or oyl (or the middle finger of thy other hand) where the end of the *Catheter* resteth or beareth out, then put in the *Catheter* yet further towards the fundament, pressing or bearing down, as it were, a little the lower part of the said instrument with thy upper hand which stayeth the *Catheter*, then (together with the help of the lower finger of the other hand) turn the *Catheter* upwards, putting it also withall forward a little, and it will slip into the bladder; then draw out the inner wyer, and the urine will come forth, still keeping the instrument carefully within the bladder till all be runne out that gently will come without forcing. Moreover, you may by putting in the first or longest finger into *ano* or the fundament, the *Catheter* being in the bladder, and the water drawn out, feele easily if any stone be in the bladder, the party grieved standing and bending his body likewise forward. *How to use it.*

Of the searching candle.

THe searching candle is chiefly to be used when there is a caruncle or ulceration in the neck of the bladder, or passage of the urine, and then it is used both to finde out the place where the said grief is, and also to bring apt medicines to the place grieved; but that work requireth good deliberation well to effect it: for an expert workman may easily erre herein, except he take good regard. Wherefore when by the candle you have found the certaine place of the grief, which is commonly done by the stoppes or stayes which the said candle findeth in the passage, be carefull to observe the just length to the further end of the said stop or place agrieved, and there if you marke your candle well, you shall by the same perceive the full length and breadth of the disease: then upon the said light or candle, fasten your medicine which you intend to heal the grief with; as namely, if the disease be a kinde of spungie flesh, as often *The use.* *The right end of the candle is to finde out the grieved place, and right passage thereunto.* *The time when the medicine is to be applied.*

The right manner of applying medicines.

it is, a very little *allumen ustum*, or *vitriolum ustum*, wil be fitting medicines, or what else you know best for such occasions, and print it according to the depressed part of the wax into the wax candle, and conveigh it warily to the place, and let the wax light remaine for a short time in the yard, then having a care you keep it not till the wax melt too much, drawing it out, and do so again; and alter your medicine upon the searching candle, as you see cause, and forget not to use good injections also, which help much. Thus much for this time concerning the *catheter* and searching candles.

These former recited instruments may be placed on the Chest lid, except the Glister pot. Their necessarie uses being briefly touched, it rests now to speake next of certaine other chirurgicall Instruments and necessaries pertaining to chirurgery.

The Salvatory and the necessary appurtenances.

Six divers Unguents at the least in a salvatory requisite.

THe *Salvatory* if it contain six severall Unguents, it is sufficient for any present use, so that they be such as are sound and good, and most in common use: such are

Unguentum
- *Basilicon.*
- *Apostolorum.*
- *Linament of Arceus.*
- *Aureum.*
- *Diapompholigos.*
- *Dialthea.*

Eight roomes in a Salvatory i not amisse.

But if the *Salvatorie* have eight roomes, then two more as necessary as the former may be added; as namely, *unguentum Populeon*, and *unguentum Album*; concerning the severall uses of these unguents, in their places somewhat shall be spoken, God willing.

Of the Plaister-box, and what belongeth thereto: And first of the Emplaisters.

THe Plaister-box ought to contain, at the least, three kindes of severall Emplaisters: as namely,

What Emplaisters the Plaister-box should have at all times readie.

Emplast.
- *Stipticum Paracelsi.*
- *Diachalcitheos.*
- *De lapide calaminari.*

For want of *Diachalcitheos*, *Emplast. De minio* may serve.

The uses of the Instruments due to the Plaister-box follow next, and are these,

Speculum linguæ.
Flegme.
One capitall instrument.
A directorie for inlarging a strict orifice.
Scissers.
Forceps.

Spatula.

Spatula.
Probes.
Stitching needles and quill.
Launcet.
Burras pipe.
Lavatory.
Uvula spoone.

There belongeth to the Surgeons Mate a carefull and especiall respect to be had concerning Scissers; namely, that he have at the least two paire of good Scissers for to cut hair, that they be well grownd, and kept cleane; as also in his plaister-box one paire, and that they be at all times kept well. The manner of using them were lost labour to be taught any Surgeons Mate: for if he be therein unskilfull, he is unworthy of his place. Wherefore I onely recite them for remembrance sake, and likewise for order, having already spoken somewhat of the severall uses of each one of the recited instruments.

Surgeons ignorant of the true use and keeping Scissers and Plaister-box, unworthy name and place.

Of the Forceps.

THe *Forceps* are onely used to take off medicines from diseases, or sometimes to take out a spill, a haire, or a loose bone, or ought else which is offensive, from a wound, or to draw out ought that may by chance come into the eare, nostrils, the mouth, or throat, to the danger of the Patient. Wherefore it is an instrument of continuall use, and hath many offices in Chirurgerie.

The use.

Of the Spatula.

THe use or abuse of the *Spatula*, as it hath his office to take out an unguent and spread it on lint, can do no offence to the Patient greatly. Wherefore I will pretermit to lose time in declaring ought thereof.

Of the Probe.

THe *Probe* hath already been mentioned in another place; but the small *Probe*, being a necessarie meerly belonging to the plaister box, serveth not onely for the aforesaid uses, but also to cleanse wounds, ulcers, fistulaes, &c. and is a very necessary instrument which cannot well be missed: but there is much abuse of this instrument oftentimes by making probation (as the phrase is;) for some, to shew a wound deep, having gotten once within the *cutis*, will, by thrusting it sometimes betwixt the coats of the muscles, sometimes otherwise, ignorantly either indanger the part, and thereby occasion evil accidents to follow, or otherwise break the coat of a veine or artery, to the overthrow of the Patient, or his great hazzard.

The use.

The abuse of this Instrument.

Note.

Of the stitching quill, and stitching needles.

How many needles needful. Of what sizes.

Instructions for stitching.

THe stitching quill, and stitching needles, have their due place in the plaister box: wherefore, that they may be the more ready on a suddain, as occasion is offered, forget not to have at the least three ready needles well armed and pointed of severall siezes, I mean threded with strong coloured silk, well waxed: and when you stitch, beware you draw not the orifice awry, oblique or deformed, but that you have great respect to the true beauty and former comelinesse of the wounded part, neither let your stitches be too neare one unto another, neither tie your silk too close, which will occasion the stitches to break before their time; for nature will not be forced. Also when you would stitch a wound, let the hole of your stitching quill not be forgotten to be set to the one side of the lips or sides of the wound which you intend to pierce, so that it may give a stay to the part when it is to be pierced through with the needle; and it must be just so placed, that the needle piercing through the wound, may also come within the said hole; which drawn through, take away your quill, and set it so to the other side. Sometimes also it happeneth in stitching the sides, that the sides of the wound lie so near each to the other, that both sides may at one time be taken up without drawing out the needle at all: in such a case the stitching quill mentioned is not to be removed from the first place. A double coloured silk is best to stitch with, being waxed, next that, thred will serve. It is also convenient to wax the thred or silk, or to use some emplaister to rub it with in place of wax. Note also, that rolling needles be put into the said stitching quill to be ready: also thred to sow rollers together for making the readier and more convenient Ligature in wounds and ulcers, as occasion is. There is also a forme of drie stitching of new wounds, which at this time I omit for brevities sake. Thus much of the stitching quill, and stitching needles.

Of the Launcet.

Instructions concerning the Launcet.

ALthough at the first it might be imagined that little were to be spoken to the Surgeons Mate concerning the Launcet, for without question each Surgeons Mate knoweth a Launcet as well as my self; yet when I consider the weaknesse of young men concerning the true use, and the abuses of the same, and that I call to minde how many good men daily hazzard, if not loose their lives by the undiscreet use thereof: I am at a pause with my self, to consider in these few lines I have to write, what I might say for to furnish the Surgeons Mate with best and most needful admonitions in fewest words. First therefore, me thinks, it is not amisse to advise him, that he carry with him at the least six of the best sort, besides six more common ones, for an east *Indie* voyage: that he oyle them, or anoint them with *Axungie*, and so wrap them in oylie clouts, that they rust not: and that he onely bring forth into the aire one at once. Also that he have ready convenient bands to tie the arme; a band

band made of wosted gartering is the best, or of a strong fine list; for all bands made of silk or linen, will slide back. Let him remember also that he tie not two knots upon the band, for that requireth too much trouble in giving the veine vent: if he use a wollen band, one sliding boe-knot will serve, which is easie to be loosned or fastened, where you would cause it to bleed more or lesse. Note also, that the band be turned twice about the arme ere you tie it: also that this knot lie aloft on the top of the arme, and on the outside of the elbow, and not too neare the joynt or the place where the veine is to be opened: that he never open a veine but first he have ready a band and bolster to make it up again: that his Launcets be not too spear pointed, I mean small pointed; for the broadest pointed Launcets make the best work: likewise that the orifice be large, not deep, yet not overlarge, for it is overlarge when the bloud tumbleth out without a streame, for that spendeth too much the spirits; and it is also too narrow when the stream is small, and the veine is puffed up with winde. Note also, that if your Patient incline to faintnesse or swounding, you cause him betimes to thrust his longest finger of the other hand into his throat, and a little provoke himselfe to casting, it helpeth presently; let him reiterate the same worke if occasion be. But if he chance on a suddain, as oft it happeneth, to be gone in a swound, beware you lay him not on his back with his head too low, as it is usuall with some to doe, for so you may chance to loose him. I have seen the like once done by an ignorant bloud-letter: wherefore remember it, but rather bend him with one arme forwards, and with your other hand stop very close his mouth & nostrils, and in very short time you shall perceive wind to come, and it will gather to his mouth, and he will strive for breath, then let go your hand, and all is well; and as often as he fainteth doe so. This is a safe course, which with good successe I have used from my youth to this day.

concerning bloud letting necessary admonitions.

Of the Launcet points.

Of the veine opened.

Of faintnesse in bloud-letting with a remedie.

Of swounding in bloud-letting the remedie approved.

Further note, that at sea, especially where fresh food or good nourishment is not at hand, it is good to be sparing in the quantity of bloud to be taken away, and rather often take bloud away, then too much at once, except bloud abound too much; which is not easily judged by every young Artist. For sometime the party is idle headed by distemper of the bloud, which by cooling broths and julips ought rather to be tempered; providing also, that he have the benefit of nature, I mean a loose body, or be provoked thereto by art; and by this meanes rather seek to cure, then by rash *Phlebotomie*; for you must consider that in the bloud consisteth the life of man: wherefore, be not rash in that work; and as is said, hold ever this rule, that if the Patient neither on the day thou wouldest open a veine, nor on the day before have had a stoole, that thou attempt not to let him bloud before first he hath had one stoole procured him at the least, if not more; which is sooneste and safest done by a suppository: the next safest and better way is by a glister. The veines commonly opened are six in number; namely, one in the forehead, one under the tongue, three in the arme, and one in the foot: The three in the arme are most in use, whose names are *Cephalica* the uppermost, or head vein, so called of the Greek word *Cephale*, which signifieth a head, and is

The quantity of bloud to be taken away at sea.

Remedies for idlenesse in the head through distemperature of bloud.

Phlebotomie not alwayes to be used.

Observe well.

Of the veines be opened.

is commonly opened in all griefs of the head where it can be taken, in want whereof, it is almost as good to take the middle veine.

The next is the *median* or the middle veine, it is the second principall veine, which is generally taken as indifferent for the whole body.

A speciall observation concerning the liver veine.

The third is the *Basilica*, or the liver veine, being the lowest in the arme, and more respecteth the liver then the two former. But hold this generall rule, that if thou intend the opening a veine to help the liver, and that the liver veine will not be well taken, then take the *median* veine; for thou must know that all veines have their originall in the liver. Some armes have but one faire veine appearing; then it followeth of necessitie, thou must take that: for many learned Physicians are of opinion, that generally the fullest veine in the arme is best and fittest to be taken, except some speciall cause alter their mindes: for their words are often *quæ majus turget, majus urget*, which may be englished, the veine which sheweth most, is most faulty.

Causes of bloud-letting in the fore-head.

The veine in the fore-head is also often taken for paines in the head, as rheumes, distillations of humours, and the like.

Under the tongue.

The veines under the tongue in the *squinancie* or *angine*, inflammations, and swellings of the Amygdals of the throat, or of the root of the tongue,

In the saphane veine.

the liver vein called *saphane*, chiefly is taken for womens sicknesses, not often seen at sea, though some necessary occasions chance of the taking thereof in men at sea, for diverting and sometimes for curing of some speciall diseases, which for brevity, having spent my limited time, I omit.

Incision knife.

THis Instrument is mentioned in the beginning of the uses of instruments under the title, *Incision knife.*

The Burras Pipe.

From whence it hath its originall.

THis Instrument thus named, doubtlesse was by a Surgeon borrowed at first from some Gold or Silver-smith, and never payd him againe; for the Gold-smiths use it daily, and cannot performe their works without a *Burras Pipe*, but the Surgeons make other use thereof, (namely, for the most part) to retain corroding powders in, as *Vitrioll*, burnt *Allom præcipitate*; and such other caustick medicines, which well used performe very much in healing; So also their abuse bringeth shame to the Artist, and often unrecoverable damage to the Patient. For it is common with many Artists, in the healing of new wounds to mix *præcipitate* either with a *digestive Unguent*, or with *Basilicon*, and *Dorsell* or *plegents* laid on tents, according to the form of the wound, and to put it in, as they say, either to enlarge the wound, or to help digestion, to take away proud flesh, to mundifie, and the like; and if not *præcipitate*, then must they be busie with *Vitrioll* or *Allom* burned, or with some caustick medicine in that kinde. But I would advise the Surgeons Mate not to use any corroding medicine at all in new or fresh wounds, but let

The use of the Burras Pipe.

The danger of the abuse of it.

An errour in healing of a new wound observed.

Directions for the cure of a new wound.

let the flesh grow as proud as it will, the ground being clear from whence it groweth, namely, if it be from a wound wherein is no putrefied bones, and if so be that the wound be full of flesh, and then will not cicatrize, a little burned *Allom* or *Vitriol* will do well, and then to your former dressing again, remembring that each third or fourth dressing be meerly drie lint, you shall finde good therein; and if you onely take lint and wet it in a *Coperas* water, and let it dry again, and lay that lint dry upon the proud flesh, sometimes for a dressing or two, and then againe to your former method, doubt not, it will without paine very well cicatrize any new wound: I write this, for that by the unskilfulnesse, yea, and sometimes by the idlenesse of evil minded and base Empericks, I have seen men lamed by the needlesse use of caustick medicines, even in slight wounds; to which, if an old wife had onely applied her one salve for all sores, no such thing had happened: yet I am not so simple to denie the just use of so noble medicines in wounds, ulcers, and fistulaes, or otherwise where need is; but I onely here advise the young Artist, that he may not be too rash in the use of them, and likewise do advise him that having used them once, he first pause againe at the least eight dayes, namely, till the first *Eskar* be fallen, and certaine dayes after, ere he use any caustick powder againe; for with the use of corroding medicines, one immediately after another, many Ulcers are made more painfull and rebellious then they were, and the bones sometimes made foule which were otherwise cleane; which fault is too frequent nowadayes: and amongst many grosse faults daily committed by unexpert Empericks, this one is to be lamented, namely, the use of keeping open penetrating wounds too forcibly and too long by the use of hard tents, armed with caustick powders, whereby nature can make no true unition, but is forced into much disorder; which I wish young men to make a conscience of, and to be carefull not to erre in that kinde.

Surgeons wilfulnesse as well as unskilfulnes blame-worthy.

Note.

Two evils to be avoided.

The Lavatorie.

This Instrument is set down else where.

of the Uvula spoone.

THis instrument is made to put pepper and salt in, or fine bole, pepper, or salt, or some other the like medicine, and to hold the same right under the *Uvula*, which is for to blow up into the concavity behinde the same; and no other great or especiall use I know it hath in Surgerie, except it may be used to warme a medicine in.

Thus much of those necessaries which properly deserve the names of instruments in the Surgeons Chest. Now a word or two of such other Appendixes, which in their kindes are as necessary as the former.

The

The Cupping-glaſſes or Ventoſes.

The uſe is divers.

THere are many neceſſary works in Surgery performed by *Cupping-glaſſes*, namely, ſometimes they are uſed to ſet upon a *Bubo* or botch to bring it forward, and therein they are very good. Sometimes alſo to ſet in the nodell, and on the upper part of the ſhoulder-blades, to draw back humours which oppreſſe the head, the eyes, or teeth: or againſt *Lethargie*, or on the thighes againſt aches, or paines there; or for the cure of the *Sciatica*, they are very good; or ſometimes to draw bloud and ſpirits to a member withered or benummed: in all theſe and divers more griefs the *Cupping-glaſſes* are very needfull. Sometimes alſo they are ſet without ſcarifying onely to attract humours to the place. Another time (it may be) in other caſes they are uſed with ſcarifying, to take away bloud and choler, which offendeth the part. Some ſet them on with towe, ſome with a ſmall wax light ſet under them; ſome onely with the flame of a great candle, which my ſelf uſe, and is not offenſive nor painefull at all: whereas the other waies the flame excoriateth often the part, and maketh new unſeemly worke: for the better doing whereof, I uſe to place my candle cloſe to the place where the *Cups* ſhould be ſet, the place being firſt wet and rubbed well with hot water and a ſpunge, and the *Cupping-glaſſes* alſo wet. Hold your *Cupping-glaſſes* over the flame a little, and then clap it quickly on the place whileſt yet the ſteeme of the light is in it, and it will be faſt, and draw hard; but you muſt have your *Cups* fit, and not too wide for the place you would ſet them on, or elſe they will not take any hold. Further, when you perceive they have drawn well, which by the blackneſſe and riſing of the skin you may eaſily ſee, then (if you hold it fitting) you may lightly and quickly ſcarifie it with a fine *Launcet*, which truly is the beſt and profitableſt inſtrument for that uſe; and then wetting your *Cupping-glaſſes* againe, with the flame onely of the candle ſet them on where they ſtood before, ſetting as many *cups*, and drawing as much bloud as you ſee good: and when no more bloud will come, and that you thinke it time to take them away, which is known by a yellow water which cometh at the laſt; then (I ſay) it is time to waſh the places with faire water where the *cups* ſtood, and dry them with a ſpunge or cloth, and onely anoint them with *Ung: Album* once, and they will be whole. The overdeep ſcarifying it, is not only dangerous, but alſo painfull, and not art-like: for if you note well the *cutis*, it hath many capillar veines in it; yea, and ſome great veines, and is *porous*, ſo that the Artiſt may by force draw humidity ſufficient from farre, if ſo occaſion be to uſe their utmoſt force. Large and wide *cups* are fitteſt on the thighes, leſſer on the arms, and the leaſt for the hands or feet.

The end why they are ſet without ſcarifying.
Why with ſcarifying.

The divers ſetting of them.

The beſt manner of ſetting them.

Note.

Scarification muſt be light, and ſodain, and with a Launcet.

When to take the cupping-glaſſes away.
What to be done after they be taken away.
Deep ſcarifying evill.

Of the Braſſe Baſon.

Friend learne good by ill.

I Have nothing to write concerning it, but that at the leaſt the Surgeons Mate have one if not two; and if he finde no uſe for it, let him

him sell it for good liquor at *Bantham*, as a Surgeons Mate lately did one of mine.

Of the Bloud Poringers.

BLoud Poringers are necessary at Sea, to be the more certaine of the quantity of bloud which is let; for since the bloud of man is so precious, it is to bee well weighed what quantitie is taken. And although the German Surgeons, doe ever let bloud into a Bason, yet I hold it not good for the Surgeons Mate to imitate at first, except hee be of good judgement indeed, to judge of the quantity. The bloud Poringers, which are made for that purpose being full, hold just three ounces, and somewhat more. For my owne practice I hold this course; if one chance to come to me of himselfe, or by advice of a Physician to be let bloud, though he have a strong body, I never take from him more then two poringers, and a halfe at the most, but often lesse. If the party be not strong, except it be in case of a *Pleurisie*, or some like urgent cause, I take lesse. For in that worke except my reason give mee good satisfaction to doe the contrary, I will rather offend in too little, then in too much taking of bloud away; for I have seene much hurt to have ensued by great quantity of bloud taken away at one time: 7. or 8. ounces I hold a strong body may beare to lose, having good nourishment to recover it againe, and that without harme: but if you grow to ten ounces, you may many waies doe harme in the body, except your warrant be good. I speake not this to discourage young Surgeons from a worke so behovefull, but admonish them to warinesse in a point so dangerous.

The quantitie of bloud neglected, care and cure is banished.
Imitation without discretion is idle.
Bloud poringers necessarie.
The constitution of the body is to be regarded in Phlebotomy.
Too little rather then too much bloud is to bee taken away.

of the Dyet Pot.

THe Dyet Pot is not alone to be used in cases of dyet drinke, seething for the pox, & not otherwise; for as a learned Doctor upon occasion lately reasoned, there is difference betwixt *the Dyet*, and *a Dyet*, though in both kinds there is even. *Quot homines, tot sententiæ*, so many men, so many minds. Wherefore concerning descriptions, of severall Dyet drinks for the pox, I will referre the Surgeons Mate to other Authors: for in truth I must deferre that point till fitter opportunity; I meane till I write touching the cure of that disease. And yet (mee thinkes) to speak somewhat of a drinke in the case of the *Calenture*, or any other unnaturall hot fever, to be made at Sea to qualifie the heat of the bloud, were not amisse; which may be done as followeth,

The use.
A decoction for the Calenture.

℞. French barley ℥ iiij.
Fresh water 2. gallons
Licorice ℥ j.
Cloves nº. 12.

In want of Licorice, take juice of Licorice halfe an ounce. In want of french barley take other barley, or for a neede, wheat flower; boyle this gently to 4. or 5. quarts, then cleare it, and if it may be, keepe it not in

How to keep it.

the braſſe pot, but in ſome earthen or glaſſe veſſell; and if the party his heat be great, and have paine in his head, adde thereto ſo many drops of oyle or ſpirit of Vitrioll as will a little change the taſte & make it ſoweriſh, but not too tart in any wiſe; and if into all this drinke, you put of Roſe water, of wine vineger, or Roſe vineger, and Cinamon water, of each only one ſpoonefull, if you have it, it will doe well to mend the taſte; if not, the matter is not great: let the Patient drinke often hereof. Further you may, if you think good, adde ſirrupe or juice of Limons ℥ 4. If it be for one which is looſe in his belly, you may infuſe of your *ſuccus Acatiæ* herein ſome 2. or 3. ℥, and (being cleared) let him drink of the drink plentifully as he hath thirſt; but you muſt cut your *Acatia* firſt, and diſſolve it in a little of the drinke warmed, and ſo put it into the reſt. Alſo, in want of *Acatia*, if you put therein *Galls* in powder a little, it will do well.

The compoſition of this drinke if the heat be over great, cauſeth head-ach.

The colour and taſte of the drinke is to be obſerved.

The drink compoſed for a Laske.

Of other neceſſaries.

THe next inſtruments, in order to bee remembred, are theſe following, viz.

Skillet.
Chafing diſh.
Gliſter pot.
Funnell.
Cups to give potions in.
One Board & knife to ſpread plaſters.
Morter and Peſtell.
Weights and ſcales.
Sives.
Searces.
Strayners.
Splints.
Junks.
Tape.
Towe.
Spunges.
Clouts.
Rowlers.
Gray paper.
White paper.
Empty pots and glaſſes.
Threed and Needles.
Wax Candles.
Lanthorne.
Tinder box furniſhed.
Inke and quills.
One cloſe ſtoole.
One bed pan.
One braſſe paile.
20. *well burned bricks.*
Pipkins.
Empty baggs.

I ſhall not need to ſpend much time, to ſet downe the uſes of all theſe neceſſarie implements, only two or three of the moſt needfull to be noted, I will remember, and then to the uſes of the medicines within the Cheſt.

of Weights and Scales.

WEights and Scales are neceſſary things, often times lightly regarded, and yet how many mens lives hang in the ballance, it is plaine enough. For Sea-Surgeons familiarly give *Stibium* by the graine, namely, from 4. to 8. graines, yea, and to 12. graines by your leave, when in truth few of them have weights & ſcales which can weigh one graine. It is a dangerous thing for a Surgeon at Sea, to bee unprovided of neat weights and ſcales which will turne with halfe a graine: for how can they give either *Laudanum Paracelſi*, *Stibium*, or other *Chimicall* medicines

The uſe is divers.

A great fault in weights and ſcales.

dicines safely, or almost any medicine inward without small weights and scales? Wherefore two paire of weights and scales, are very needfull for the Surgeons Chest; namely, one for ounces, and another for graines; for larger scales the ship is furnished. It is also to be understood here, for instruction of children in Art, that xvj. ounces, make a pound; each ounce 8. drammes, each dramme 3. scruples, each scruple 20. graines: for the graine, a full barley corne will well serve, or a good wheat corne, though a large wheat corne be somewhat too big: an ordinary pepper corne will also serve for a graine. *A direction in weights.*

Of the Close-stoole, with the Paile of Brasse, and the Bricks.

ALthough I know before hand, that I am to undergoe many witty and eloquent flouts from young gallants of my owne profession, for mentioning so base an instrument to belong to the Surgeons charge, as this last mentioned Close-stoole, with his appurtenances, yet let them know, that neither can my booke blush, neither shall my selfe, I hope, have cause; for I nothing doubt to yeeld each honest young Artist a sufficient reason for to satisfie him herein: and (in a word) my reason for appointing to each ship, bound for the East-Indies, at the least one of these, is because the bloudy, or other flixes, are so dangerous diseases, and so deadly amongst our men, that I hold it my duty to advise even the good use of a Close-stool: and I have caused the stoole to have one door on the one side, that thereby either things to foment, fumigate, or otherwise to comfort the weake part, might be the better applied, the Patient sitting at his ease thereon. *Meane things sometimes are of great moment.* *None worthy to be reputed Artists who disdaine the meanest office of their profession.* *The use of the Close stoole.*

Also one especiall reason, why I have appointed it, is, that a poore weake man in his extremities, should not continually goe to the shrouds, or beake-head to ease himselfe; nor be noysome to his fellowes, but might by the help of his Mate through this meane instrument finde comfort in his most pitifull distresse; whose miseries I heartily compassionate. Wherefore, I admonish the Surgeons Mate in generall, in the feare of God, not to be fine fingered, slothfull, or scornefull to use every kinde of good manuall and other help, to save mens blouds in this fearefull disease; for the omitting of their duties in helping men thus distressed, bringeth the blouds of those men without doubt upon their heads; and though peradventure they may carry it away for a while with men, yet the Almightie, who seeth not as men see, will surely finde them out. *The needs of it is great.* *Observe this if thou hast a conscience.*

The paile of brasse, under the stoole chiefly appointed for neatnesse, cleanlinesse, strength, and other good uses it hath, was alwaies to belong thereto, and not to any other use: It may also sometimes be whelmed downe, and on the top thereof a hot bricke be set, or the bricke (if you finde it too neer) may stand lower, or be put into the paile; which hot brick with wine and vineger, or any other like fitting medicine of experience, may be sprinkled to comfort the part agrieved withall; for it is found by experience that the steeme of wine vineger, sprinkled on a hot brick doth much availe in the cure of the flix, & that simple remedy alone hath *The brasse-paile.* *The use of bricke.* *The cure of the flixe.*

hath cured many; but when the Patient riseth from the said fume, if then a claoth be well heated over the said fume or over a fire, and put close to the part, it availeth much; and if you then likewise lay the Patient to rest, giving him three or foure graines of *Laudanum*, you shall do the better, and by Gods helpe, with other answerable good regiment of diet, make a quicke and perfect cure of his disease. But I am not ignorant, that there is use for twentie close stooles at once, in some one ship, which worke the Cooper and Carpenter should take care of.

The conclusion. Thus having briefly runne over the most necessarie uses of the particular Instruments, and other necessarie appendixes to the Surgeons Chest; it followeth next to begin with medicines Physicall and Chirurgicall, aswell simple as compound, within the Chest; namely, somewhat, though very briefly, to touch their most common uses and vertues, for the helpe of young Practitioners.

An exact maker of this Instrument is one John Watson dwelling at ye South dore of St Bartholmes Hospitall.

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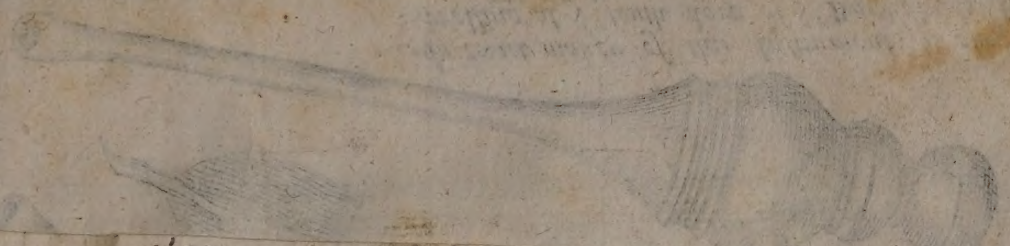


AN ABRIDGMENT OF THE vertues of certaine EMPLAISTERS mentioned, which are moſt uſuall in the SURGEONS Cheſt.

Emplaſtrum ſtipticum Paracelſi.

THis compoſition, deviſed by the famous Philoſophers *Philippus*, *Theophraſtus*, and *Paracelſus*, excelleth in the cure of piercing wounds & ſtabs; as alſo in the cure of all dangerous wounds whatſoever: it hath the precedence as well for contuſed as inciſed wounds; for it aſſwageth paine, defendeth from accidents, diſcuſſeth, mollifieth, attracteth, incarneth, digeſteth and conſolidates: and is alſo good for an old ach proceeding of a cold cauſe. It is further eſpecially good for ulcers on the legges, or elſewhere in any part of the body: it is of temperament warme, and very comfortable.

For approbation whereof you may ſee *Paracelſus* his owne words, which I have here inſerted.

Hoc Emplaſtrum eſt magis virtutis divinæ quam humanæ. Valet ad omnes plagas, novas & antiquas. Abſtergit, mundificat, carnem bonam generat, conſolidat ex fundo plus una ſeptimana, quam aliud quodcunque in menſe, nec permittit fieri aliquam putrefactionem & corruptionem, nec malam carnem generat. Valet omnibus nervis inciſis, ut conquaſſatis & muſculis. Valet omnibus inflaturis, abſtrahit ferrum & lignum, & plumbum de plagâ, eidem ſuppoſitum. Valet contra omnes morſuras cujuſcunque morſuræ beſtiæ venenoſæ, & puncturas Serpentis; maturat, ſanat omne generatum cujuſcunque Apoſtumatis, ſuperpoſitum. Valet in membris generationis ſi ibi fuerit corruptio. Valet contra Cancrum, fiſtulas, contra ignem perſicum, ſedat dolores cujuſcunque plagæ. Hæc Theophraſt. Bombaſt.

Diachilon magnum cum gummis.

THis Emplaſter diſſolveth, maturateth, and mollifieth hardneſſes, and is principally good in Apoſtumes: it is of temperament warme,

and

and moiſt. It was firſt deviſed by a certaine Artiſt named *Serapis*. *Avicenna* (as ſome thinke) invented it; but others judge that *Meſues* was the inventor thereof.

Diachilon parvum.

THis Emplaſter is very good to diſſolve ſchirras, tumours of the liver, ſplene, reines, belly, or elſewhere; it is wholly compoſed of mollifying and diſcuſſing ingredients; it ſerveth generally for hot or cold cauſes, but chiefly for hot: For I hold it to be of temperament cold, the rather, by reaſon of the much Litharge in it, which, if a minerall may be called either hot or cold Litharge, cold it is without queſtion. It was deviſed by *Meſues*.

Diacalcitheos.

THis Emplaſter mitigateth paine; it is a good defenſative againſt all venemous humours, and will very well induce a cicatrice in wounds and ulcers: alſo it hath an eſpeciall good qualitie to aſſwage the paine in the ſmall of the backe, proceeding from diſtempered kidnies, by hot cauſes, aſwell concerning the ſtone, and gravell, as in the *Gonorrea*: and diſſolved or relented with oile of roſes or elders, or of linſeed, it is a very good medicine to heale burnings, and ſcaldings. It was deviſed firſt by *Galenus*: of temperament it is cooling and drying.

Empl. Oxicroceum.

THis is a very ancient compoſition, but aſcribed chiefly to *Nicolaus* an ancient Writer as Author thereof: it is of quality anodine, attracting, mollifying, and comforting; aſſwageth paines in the gout proceeding of a cold cauſe, and is good in cold Aches, and by that attracting vertue it hath, it draweth out vapors *per poros cutis*, or the ſweat vents in the skinne, whereby it often unladeth the body of vicious and noiſome humors, which otherwiſe might indanger the Patient: of temperament it is hot and moiſt, &c.

Empl. Melilotum per ſplen.

THis Emplaſter mollifieth all hardneſſe of the liver, ſplene, and ventricle; diſſolveth windineſſe, ceaſeth vehement paines provoked by winde; as namely, in the diſeaſe called *flatus hipocrondriacus*, which is a flatious or windy paine gathered neere unto the Splene: it is alſo generally good againſt the gathering together of any congealed cold ſubſtance in the ſtomach or liver: of temperament it is warme, and comforting exceedingly: It was deviſed by *Meſues* an ancient writer.

Empl. Melilotum ſimplex.

THis is good in greene wounds, for it drawerh and healeth well: alſo it attracteth and bringeth forward a cold Apoſtume, and is an eſpecial ſecret,

ſecret, and the beſt thing I ever knew in curing kybed heeles and chilblaines: it is of temperament hot and moiſt, and was deviſed by *Meſues*.

Emplaſtrum de lapide calaminari, or *Griſium*.

THis Emplaſter (I may ſpeake of my owne experience) is a good healer of ulcers which are hard to bee cicatrized, and hath an eſpeciall vertue in curing of *buboes*, as well venereall as peſtilentiall: It is alſo the beſt incarnative of all the Plaſters that ever I uſed.

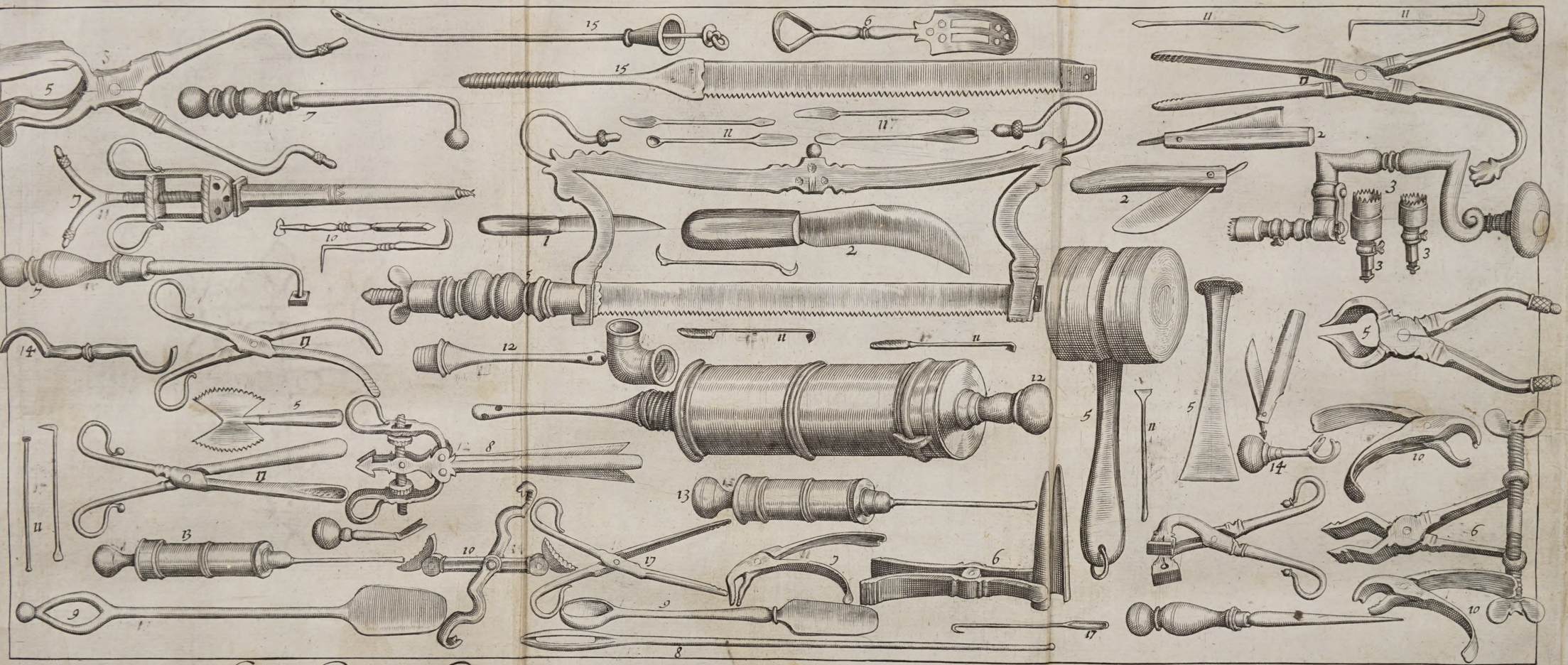
Emplaſtrum de Minio.

THis Minium-plaſter is a good diſcuſſer of hot humors, a good ſwager of paines, mollifieth well, repelleth ſomewhat, and is very commodiouſly uſed upon wounds and ulcers, to further good healing: it induceth alſo a good cicatrice. In the tumour of *ſcrotum*, or rather of the Teſticles, called *Hernia humoralis*, commonly following the ſudden ſtopping of *Gonorræa*, it is a very convenient anodine and diſcuſſing Plaſter. This Emplaſter likewiſe is very good to ſwage paine, in any caſe, where ſafely an anodine Emplaſter is required; as namely, in contuſed or diſtorted joints: only note, that this *Emplaſtrum de Minio* is meant of the compoſition ſet downe by that reverent Maſter *Galle* in his Diſpenſatorie, for I make mine according to his deſcription.

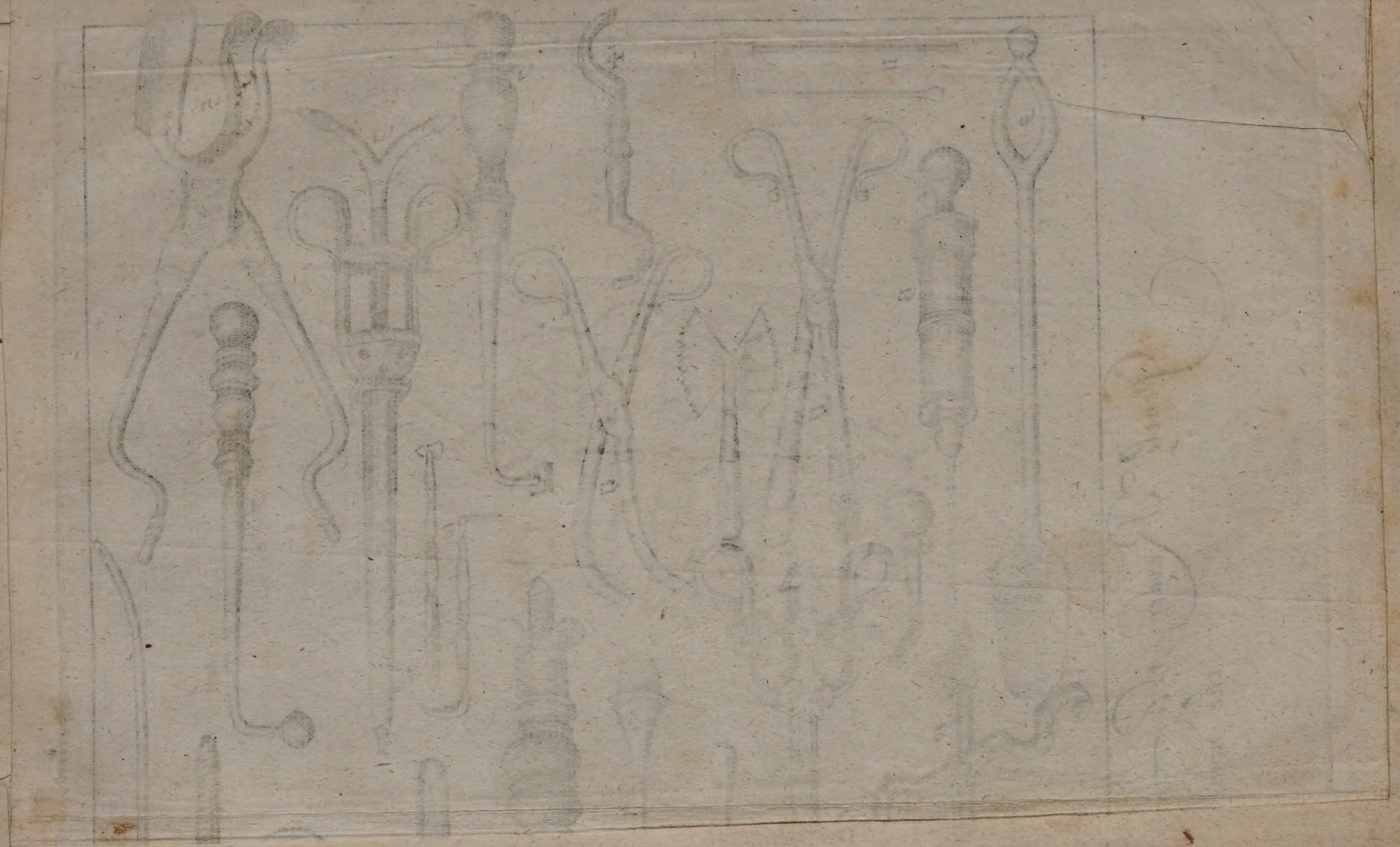
Emplaſtrum calidum.

THis *Emplaſtrum ſtomachi* or *calidum*, is a compoſition deſcribed by *Johannes Jacobus Weckerus*, under that name, pag. 953. of his Diſpenſatorie: it is only uſed where a comforting Emplaſter of a very warme temperament is required: it is a needfull Emplaſter in the Surgeons Cheſt; for it comforteth much the liver or ſtomake debilitated by cold humours, and helpeth well digeſtion; yet in want thereof *Paracelſus* Plaſter, though not ſo fitly, may ſerve.

AN



Gentle Reader the vses of each of these Instruments are touched in ỳ precedent pages accordinge to the nombr of the severall figures noted by each Instrument.



ENEMA FUMOSUM,
OR
A FUMOUS GLISTER.

BEing a new found Art of giving a Glister of smoake, wind, any drie powder whatsoever in substance, into any mans body, very convenient in many occasions, experimented, to bee not onely safe; but also most comfortable, pleasant, profitable, and easie to be perceived in; being a most profitable instrument, and Art for the way of curing many grievous infirmities, which although in all occasions either Domestick or Military, it may bee very vsefull and good; yet, it may be esteemed most necessary and expedient for the Military Surgeon. Explained Dialogue wise, betwixt the Authour and a Military Surgeon; and in that it is a by part of Surgery not common, the Authour hath thought fit to unfold it by a medicinall Riddle.

The Authour to his brother, A military Surgeon.

Brother Surgeon, being here so well met, I esteeme it will not be time ill spent, that I explaine unto thee for thy experience, a riddle of an old new medicine, that for sundry occasions may fall fitting; thy practice in Camp, Ship, or else where; and it is made of strange, not strange materiall, imateriall, extramarine, domesticke substance, or subject common to bee found, and almost every where ready at hand amongst good fellowes, serving, and usefull in Surgery and Physicke, commended highly for worthinesse and for unworthinesse, as much blamed; being as pleasant as hatefull to many, the substance whereof being a vegetable plant, apt to grow upon any warme ground, although a *Stercorarium* that is well fortified with soyle, being a subject disposed

of, and eaſily diſperſed by every motion of wind; yea, and ſo from Nation to Nation, of a vagrant, not fragrant, olent, not redolent ſmell, being a volatile uncertaine ayrie ſubſtance; no ſooner taken into the body, but caſt out in a fuming manner yet as an Idol, magnified by not a few, taken for health, ſolace, eaſe, pleaſure, profit, comfort, wantonneſſe, and good fellowſhip; being eſteemed fit for all ſocieties, as alſo received in for alement, nutriment; yea, and for eſpeciall food in ſcarcity, uſed every way, and any way received into the body (to wit) inwardly, outwardly, upward, downward, backward, forward, without limitation of time, or advice of the learned, being alſo approved of by very many for other noble great and marvellous vertues, as for the enriching, impoveriſhing, ſupporting, endowing, undoing, maintaining, overthrowing, and raiſing againe of inumerable perſons and whole Families at home and abroad, as well of traders as other occupiers by Sea and Land: likewiſe, for the uſes and abuſes thereof, expoſed, and tranſported to each City, Towne-Corporate, Hamlet, Village, Inne, Taverne, Tipling houſe, Goaile, and where not beloved, or abhorred, but here I deſire to conclude, fearing to be held overtedious, if I ſhould further proceed in arogating or derogating, amplifying, or ecclipſing of that undoubted, excellent medicinall ſubject, of heathen production and extramarine importation, and firſt birth, becomes native with us, and therefore ſhould not be obnoxious, wherefore here my riddle is put forth and is at an end.

And perceiving that you my Brother Surgeon expect with deſire, that I ſhould unfold this my riddle to you; we will for the purpoſe ſtep aſide in private, where we may accomodate our ſelves with a ſmall Gallon of Sacke, and a Pipe of the beſt ſmoake, and there we will further diſcourſe of our occaſions, and I will unfold the riddle.

The Military Surgeon.

SIr, I like well your motion, and here at the ſigne of the mouth you may be accomodated, for I long to come to the opening of the riddle, with alſo your imparting to me your collections, experiences, and inſtructions, ariſing thereby in military ſervice according to your former ſtruposition.

The Authour.

BRother Surgeon, I am ready to anſwer your deſire, and that as brief as poſsible; for we are come to the period, here you ſee the choice materialls, before us the Wine and the Tobacco the latter, of which unfold the riddle, if you deſire the pipe of Tobacco, take it as your ſhare and the ſubject of the riddle; the operative part whereof is but ſmoake, and therefore ſmoake it to the purpoſe, and I will anſwere you in the good liquour which finiſheth the firſt end of our meeting: namely, for the unfolding of the riddle being finiſhed: Now I doe intend to fall upon a briefe declaring to you, of ſome medecinall uſes of the ſo long ſpoken of

pipe of good ſmoake, by ſetting forth the giving of it Gliſterwiſe in a fume to a patient reverſed in the *Iliaca paſsio*, wherein it excelleth alſo for many other obſtructions, gripings, tortions, Iliacal, and other diſtempers of the bowels.

And firſt for the time and manner of the giving thereof, it is beſt to be given if occaſion bee by tortions, after a former ordinary Gliſter hath been given; that hath emptied the great gut called *Inteſtinum rectum*, for ſo it may have the freer place by inflation, to force up the fume thereof, for the opening the obſtructed parts, for the better effecting, wherof if the Artiſt that adminiſtreth the fumous Gliſter, put the pipe prepared into the fundament as far as it will or can goe, with the firſt ſhort pipe ſcrewed to it, and depending thereon; remembring ere hee put the pipe into the patience body, he put a thinne piece of a wet bladder, or oyled paper, or a fine ragge only on over the head, I meane or over the holes of the ſaid Gliſter pipe, the which pipe being ſo armed put into the body to the utmoſt, that it may be paſſed in without offence, the Arteſt being firſt ready with his pipe, prepared either of ſmoake lighted, or of powder put into the ſocket or appointed place, within the Inſtrument, let him that is to adminiſter the fumous or other medicine, withdraw the pipe that is placed within the body a little backe, ſome halfe an inch, that the ſmall piece of bladder or paper, that covers the pipe, may bee thereby put aſide, that ſo the Gliſter fumous may by inflation be the better forced up for to performe the duty required of it; namely, to diſcharge it all within the body.

The Gliſter Inſtrument, fit for the exact giving of a vapourous, fumous, or dry Gliſter ought to conſiſt of ſeven parts, in order to bee put together (hereafter explained) which in their order and places effected, the fumous medicine by inflation is to be driven up to the a grieved part if poſsible, but howſoever it ought to be put up and to be diſcharged into the *Inteſtinum rectum*; which is a ſafe and benificiall courſe, eſpecially when the infirmitie is in that gut (as is ſaid:) This excellent inſtrument hath a doubble ſcope in his office of healing, the one way in the delivering into the body by inflation, any torrified or dry powdered medicaments in their powders, the other in delivering thereinto any vaporous medicaments as is ſaid, and namely, the vapours of Tobacco, of Nutmegs, Anni ſeed, Colts-foot, Bay-berries, Mirrha, Aloes, or what elſe, Art or experience can produce in the one forme or in the other, by way of inflation to be caſt into mans body for eaſe or cure thereof. But the Artiſt muſt in this manner of curing obſerve ſome generall rules, with alſo ſome caveats in the adminiſtring of Gliſters by inflation, whether they be fumous or materiall ſubſtances; namely, firſt note that if they be intended for dry medicines or fumes that they be given into the body, where looſeneſſe of the belly by a flux or otherwiſe hath proceeded; whereby the *Inteſtinum rectum*, may be hoped to be empty, the better to receive with effect the dry or vaporative medicine, that it be not impediated by hard excrements, but ſuppoſe it be, and that there be no other preventions ready then as aforeſaid, the uſe of anoyled paper or wet bladder will doe well, which ſo put up, and the inſtrument ſome-

what drawbacke,and then by inflation or blowing it in with fitting continewed force i will efect thy desire.

Much more might be added of the facility, pleasure, and benifit, of this infasive device if time would give leave, but the whole worke of my Treatises,being almost printed off before I had resolved to explaine this inflatious piece of art, forceth mee to use all brevitie therein, where I had intended the prosecution thereof further, namely, by some device of Art to have ordered the parts of the Instruments, so that a man might have given himselfe a Glister in that way, which I will not question,one or another will finde out; and no doubt will adde to this invention: yea, and questionlesse will invent other good offices that it may be fit for, although perhaps will not willingly publish it, which I leave to the time unfolder,finisher and the consumer of all things.

Concerning the parts of this instrument, as well in their particulars as also in their composure,or ready, being put together and fitted to be used in one as followeth.

The inflative instrument, for the giving of a fumous medicine, or other medicines within the capacity thereof.

Impri. The Stopples thereof accounted as parts, the devidable parts in all are seven in number, *viz.*

1 The first is the Glister pipe which ought to be in length ordinary, or according to art, a greater and a lesser as the present occasion may urge.

2 The second is the stopple to be screwed upon the head thereof, *viz.* of Glister pipe.

3 The third is the elbow piece screwed into the one side of the upper part of the glister pipe,standing Byas, or a scant,being framed so to stand, and that part ought to be in length two inches and a halfe, or neere three inches,but not full three.

4 The fourth is a straight pipe of eight inches long in all; all consisting of foure particular parts,if devided or devidable; namely,the long or fistula.

5 The fourth of the seven is a piece of Ivory screwed and fixed into that lower fistula or pipe, that containeth the silver or other metaline part thereof.

6 The next is the silver bole or cup within the said Ivory head, and conteineth the fumous medicine, being to be accounted the sixth part.

7 And the seventh part is the cover screwed on the head thereof,being full of holes for the better inflation of the smoake, all which rightly conjoyned, maketh one entire instrument, which may justly bee named *fistula fumosum.* Unto which so conjunct instrument, as coheret parts thereunto are to be at hand the matter effectuall and subjunct; namely, the substance for the fume, be it any of the aforesaid materals, as also a paire of fit forceps, holding fire with a Tobacco stopper,usuall to order it

in

in kindling; and laſtly, which ſhould have beene firſt mentioned, is the ingenious Artiſt, for the dew adminiſtration thereof in time and place convenient. Thus much of *Enema Fumoſum*; and I conclude, only thus I ſay in dew commendations thereof.

ARtificioſiſimum hoc inſtrumenti genus utiliſsimum ἅμα πρόσω καὶ ὀπίσω, mulierumque prægnantium morbis ſecretis, aliiſque uteri languoribus uvamen affert multifarium, præſertim in muliebribus obſtructionibus, hæmorroicis, fluxibus, abortionbius, tortionibus, aliiſque id genus infirmitatibus, ſicut ratio & experientia ſine omni dubio manifeſtum faciet in futuro.

To his very worthy and entirely respected friend and Brother, Master *John Woodall*, in due commendation and attestation of his work and worth.

Although that Proverbe hath for current past,
Let not the Cobler *goe beyond his* Last;
And that it may to some seeme somewhat strange
That I should thus out of my station range,
And of a Surgeon *act a* Poets *part,*
And seeme to stray from my more proper art;
Yet seriously considering in my minde,
That in this taske which I my selfe assign'd,
The subject whereunto my thoughts I bent
Was wholy vers'd in mine owne element,
Chyrurgery's *most ancient noble* Art;
I could not chuse but shew my ready heart
To sound (dear friend) thy high deserved praise
In these few Pan-*like, plaine poeticke layes:*
And therein to the world to domostrate,
What too long silence once did inhumate,
And burie in Oblivions *gloomy grave,*
Thy parts (I mean) in Arts and valour brave,
Who forty eight yeers since, or there about
In those renowned battels bravely fought,
By Francis, *Fourth King* Henry; Surgeon *went*
Vnder Lord Willowbies *stout regiment.*
Forty yeeres since lived in Polonia
A Traveller, his practice to display;
After that liv'd at Stoad in Germany,
In the English Merchants sweet society;
And by them highly honoured for his Art
And well experienced stout heroick heart,
Employed also (whiles he abroad abode)
By some Ambassadours sent ore to Stoad;
By Queen Elisabeth, *them to assist*
As their interpreter, acute linguist
I' th' Germane language. And returnd again
After that blest Queenes death. And in the raigne
Of late King James *was to Polonia sent,*
There to negotiate businesse of moment
Touching the common wealth; And for the space
Of foure and twenty yeers enjoy'd the place
Of Surgeon *Generall to the East Indies,*
And Hospitall of Bartholmew *likewise:*
Was also Master of his Company:
And lastly to his datelesse dignity
Hath learnedly composed and set forth.
This his Chyrurgeons *Mate, a worke of worth*
And high esteeme, Of which I well may say,
He hath so skilfully shewne the right way

To all young Tyro's *of this noble* Art,
And so exactly doth to them impart
The proper use of our Chyrurgeons *Chest*,
How all there Patients *must be duly drest*
With instruments of curious variation
Plasters and plat-formes for fit applications
Of potions, medicines for each maladie,
For each health hindring (knowne) infirmity
As ulcers, *wound, fractures, the fistula,*
Apostumes, fluxes, passio-Iliaca,
Exitus Ani, *and the Calenture,*
Tenasmus, *and the* Scorbue's *carefull cure*
The collicke and all various dislocations;
The easiest safest waies of amputations,
Or joynt dismembring, yea the Pestilence:
All these with such approv'd experience
That he deserves practitioners high praise,
And to be Crown'd with never-withering bayes.
And since the heavens have so much honoured him
With all these fore recited trophies trim
Of dignity, at home, in forraigne parts,
I could not chuse, but sound thy high deserts
Faire friend, and brother, and thine honour brave,
One this my plaine Pyramidis *engrave:*
And (thus) to leave unto posteritie
This monument of the firme amitie. Yours G. Dunn.

Eodem Amico.

H*E that a* long-lived, streight-limb'd, *worke intends to frame,*
Must live-long *first, Must have a judgement* sound, *not* lame.
Our lasting sollid Perman's *Autumn's fruit, Wee see*
That Summers early Birth's, soone ripe, soone rotten be.
There where Experience, *with a* settled judgment *greets*
With these a happy Third, Perfection, *ever meets.*
A rare Concurrence 'tis, yet withall Three, *you're blest*
As they know well, who doe know most, and know You best.
Others, who view your leaves, and taste their pleasing fruit
Must say, the Tree *is good, that* Good *is absolute.*
A Tree *of* Knowledge, Wood-all *of* Life, *and yet more*
Whose very Leaves *doe* Cures, *so farre as Sea or shore,*
Y'ave made your Chest, *an* Arke *of* Preservation,
Both to your owne, and to each forraine Nation.
Both th' Englands, *Old and New, both th'* Indeis *East and West,*
Both World's, *both seeke and find* Health, *flowing from your* Chest.
Without that Chest *of Yours, What ship so strong to* hold
Exotick Warres, Sack, Sugar, Silke, Pearle, Silver, Gold?
All these and more to you Great Britain's Iland *ow'th.*
Then say, How greats their debt, who were this Kingdoms Cloath?
Truth 'tis, both we and they, and this whole Globe did want
Your Surgeons matchlesse Mate. *'Tis said, I'le not recant,*
If man whil'st that he stood, intire *stood need on's* Mate,
Need's must the World *want Yours, in* Falne *and* Broken *state.*
Well Sir Y'ave Donn. *And I, thers but one line remaines,*
He that dares Check *your* Mate, *wants either* Brow *or* Braines.

G. Dun

AN ABRIDGMENT OF THE vertues of certain Unguents, moſt uſuall in the Surgeons Cheſt.

Vnguentum Baſilicon.

THis unguent doth digeſt and incarn wounds and ulcers; and will alſo prepare and bring to ſuppuration an Apoſtume either hot or cold, being ſomewhat thick ſpread on towe or leather and applied thereto: it alſo mitigateth the paine and pulſation thereof, and is likewiſe very fitly mixed either with *præcipitate*, *Unguentum Egyptiacum*, or the like medicine, the more eaſily and better to mundifie and cleanſe an ulcer: this unguent is of temperament warme, and it is aſcribed to have been deviſed by *Galen*: it is alſo good for burnings and ſcaldings.

Unguentum Apoſtolorum.

THis *unguent* ſerveth well to cleanſe and ſcower ulcers and fiſtula's, and to make a good ground to healing: it is of temperament hot and dry: it was deviſed by *Avicen*; named *Apoſtolorum*, for that it conſiſteth of twelve ſeverall ingredients joyned into one body.

Vnguentum Aureum.

THis unguent ſerveth well to incarne wounds and ulcers, being firſt well mundified: it is alſo to be uſed as a balm to them to heale them, and is a good healer of burnings and ſcaldings, the fire firſt taken out. The compoſition which I doe make, is of the practice of *Joſephus Quercitanus*, whoſe good uſe I have made triall of.

Vnguentum Egyptiacum.

THis unguent ſerveth to ſcower; it mundifieth all rotten foule ulcers, and is beſt to be put into the grieſe ſcalding hot, for then the uſuall paine and corroſion it procureth will be quickly paſt: in like manner it is to be uſed in any venemous wounds, made either with poiſoned ſhot,

or bitten with mad dogs, or any other venemous creature or great contuſed wounds, wherein, for preventing them from feare of a Gangrene, it excelleth. It ſerveth alſo well to be uſed alone, or mixed with any lotion for ulcers of the mouth and throat, eſpecially in the ſcurvie. This unguent drieth vehemently, and is abſterſive: it is of temperament hot and dry, and was deviſed by *Meſues*.

Vnguentum album Camphoratum.

THis unguent is very good to cool and heale any hot moiſt puſtles: it cureth excoriations of the skinne in any place, but chiefly in the yard betwixt *glans* and *præputium*: it alſo healeth burnings and ſcaldings very well, and is good to be applied to any painfull ulcer; for it aſſwageth paine, and healeth well. It was invented by *Avicen*: it is of temperament cold, anodine, mollificative, and attractive, and therefore of very good conſequence in the Surgeons Cheſt.

Vnguentum Diapompholigos.

THis unguent is good to heale painfull ulcers in any part of the body, eſpecially of the yard, or betwixt *glans* and *præputium*, as alſo any fretting or painfull ulcers of the legges, or elſewhere. I have found it good before all other unguents in ulcers of the yard; indeed againſt virulent, painfull and corroſive ulcers, ſcarce a better compoſition is knowne: in *Noli me tangere* in the face, I have had good experience of it; and in many other occaſions I have found it a very uſefull unguent: of temperament it is cold and dry. *Nicolaus Alexandrinus* was the author of it.

Vnguentum Pectorale.

IT ſwageth the paines and ſtitches of the breaſt and ſides, eaſeth the cough, helpeth expectoration: as alſo to digeſt groſſe humours, and to attenuate them: it warmeth and comforteth a cold ſtomacke. This compoſition is ſet downe in the Diſpenſatory of *Auguſtanus*.

Vnguentum Roſatum.

THis is uſed againſt inflammations, *Ignem ſacrum*, and all hot paines of the head: it aſſwageth the paines of the liver, kidneies, and belly, proceeding of heat, and hath vertue to corroborate. It was invented by *Meſues*.

Vnguentum Tripharmacon, or *Nutritum*,

THis ſerveth well to cure an *Eryſipilas*, excoriation or bladderings of the skin; ſuch alſo as are termed the *Shingles*: it is alſo good for to take the fire out of burnings and ſcaldings; and for any moiſt humour flowing to any ulcers in any part of the body, being ſpread upon cap paper thin, and laid over the whole diſtempered part: alſo againſt any

ſleight ſcabbineſſe or itching humour, whence ſoever it is: it is an eſpeciall good defenſative againſt any ſcalding or vicious humour, flowing to any ulcer. Of temperament this unguent is cold and dry: it is ſubject to divide it ſelfe, namely, the *Oyle*, *Litharge*, and *Vineger* aſunder; which if it be wrought together againe will be as good as at the firſt: and if it be over dry, adde vineger and oyle thereto, and it will be as good as ever.

Unguentum Populeum.

THis ſerveth well to aſſwage the paines of the *Scurvie*, by anointing the parts grieved therewith. I may juſtly ſay, upon the experience of divers skilfull Surgeons, and my owne alſo, that as well in hot as in cold countries, it hath beene found ſo exceeding comfortable and behovefull, that ſcarce any compoſition of an Unguent in the Surgeons Cheſt may compare with it: which ſome may thinke is a very abſurd affirmation in reaſon, but that experience will have it ſo. It is good alſo to annoint the Temples, to provoke reſt in hot fevers; as alſo the palmes of the hands and ſoles of the feet. It is likewiſe good to be applied for ſwaging of paine in any part of the body, and being applied cold upon a *Plegent* where you have laid any corroſive, it eaſeth the dolour of the cauſticke medicine. Of temperament it is cold and moiſt; it was deviſed by *Nicolaus*.

Mel Saponis.

MEl Saponis is honey and ſope mixed *ana, partes æquales*, and is a medicine appointed to be firſt applied (upon a burning or ſcalding) to take the fire out. It is a linament of ancient uſe amongſt our countrey Surgeons, and good: but I finde it not mentioned in ancient Writers; in want whereof uſe *Tripharmacon*, or an infuſion of *Vineger* and *Litharge*: namely, ℞ *Litharge* of gold in powder ℥4. wine Vineger lib.j mixe them well, and boile them very gently a little on the fire, and the Vineger will become ſweet as ſugar, and very anodine: foment the griefe therewith, and you ſhall finde preſent eaſe to the party. Or take *Populeum* and *unguentum album* mixed, and apply it on ſoft cap paper, firſt being well rubbed with your hand to make it ſo: or take *Diacalcithios* or *Minium* plaſter, and mixe it with Linſeed oyle, or oyle of Elders, till it be a gentle unguent, and ſo apply it: or *Tripharmacon* alone will doe well: alſo Honey alone is a good medicine.

Unguentum contra ignem.

THis compoſition vſed to that purpoſe, you ſhall finde in *Johannes Weckerus* his Diſpenſatory, pag. 1174. I have found it very good againſt burnings and ſcaldings, as alſo againſt burnings with gunpowder. Where I write the compoſitions of my medicines in generall, that alſo ſhall be expreſſed. In want of this compoſition, the *Vng. album*, either alone, or mixed with *Tripharmacon*, will doe very well; which if it be too hard or dry, you may mixe oyle of Roſes or Linſeed with it: and for want of this, you may take *Diacalcithios* or *Minium* mixed or relented with

any of the ſaid oyles, or any other fitting oyle, as oyle olive ſimple: alſo *unguentum Baſilicon* is very good in burnings and ſcaldings.

Unguentum contra ſcorbutum.

THe compoſition of this *Unguent* is recited in the cure of the *Scurvy*. I have had the practice thereof, and found it very good to attenuate groſſe tumors of the *Scurvy*, to aſſwage the paines of them, and by the uſe thereof to diſſolve ſuch tumors. I uſe this *Unguent* in cold cauſes, and in want thereof, *ung: Martiatum* or *Oleum Laurini* or *Dialtheæ*: but in hot griefes and very painefull I uſe *Populeum*.

Unguentum Dialtheæ compoſitum.

THis *Unguent Nicolaus* an ancient writer ſeemeth to be the Author of. It is profitable againſt paines of the breaſt proceeding of a cold cauſe, and againſt the *Pleuriſie*: it warmeth, mollifieth, and comforteth all the parts of the body, which are evill diſpoſed through cold infirmities: it is alſo good againſt ſtiffneſs and paines of the joynts in the *Scurvy*.

Dialthea ſimplex.

THis hath the properties of the former, but the former is better.

Unguentum potabile.

THis *Vnguent* is a ſure Balſame for wounds of any ſort, or in any part of the body, either penetrating or not penetrating; in wounds penetrating either inject it warme, or poure it into the wound. Alſo upon any occaſion, it is to be drunke ℥ j. or ij. at once, or for a doſe. It healeth wounds within the body. Alſo it healeth burnings and ſcaldings without any ſcarre. And further it cureth the winde chollicke drunke with ſacke: the doſe is to bee ℥ j. without feare: but I give uſually but one dram or ℥ ij.

Ungentum de Mercurio.

I Have elſe-where ſaid, and it is too much apparent, that for healing and killing, *Mercurie* hath no fellow; and where I recite *Merrie* in any of my inſtructions, you muſt underſtand mee *Quickſilver*, for ſo it is truly ſtiled by the Learned, and not without good reaſon. This *Unguent*, joyne with it what other ingredients you pleaſe, yet if *Mercurie* be one, it wil ſhew his valour in deſpight of the reſt, though it have 20. for one odds againſt it; ſo puiſſant is that Volatile and excellent ſpirit of his, which (I may boldly ſay) could truly never be tamed: & yet many worthy medicines are made thereof, which in their ſeverall places I meane to explaine as I ſhall have time, God willing. You may make this *Unguent* of *Dialthea*, *oleum Laurini. ana.* lib. ſs. *Mercurius vivus*, or quickſilver ℥ ii. *oleum ſpice* or *Tereb.* if you have them, *ana* ℥ ſs.

and

and if you ſee cauſe in very cold bodies you may adde of *Euphorbium* in powder ℥ ii. This *unguent* is good to provoke a fluxe. You may make it of one of theſe *unguents* alone for need. But I wiſh not the Surgeon to carry any of this *unguent* ready made to the Eaſt-Indies; for the Quick-ſilver (it is to be feared) will fall to the bottome: but if hee will needs have it ready made, let him adde to the compoſition, waxe, a ſufficient quantity; but it muſt be made as followeth. Your waxe and unguent muſt be melted together, which being yet warme, ℞ *Terebinthinæ claræ* ℥ i. being put into the bottome of the woodden bowle, or braſſe baſon, not a pewter baſon; and ſtirring it ſo long till all the Quick-ſilver be cleane loſt, and turned into a blew ſalve, no more to be ſeene; then by little and little mixe it with the former, and being almoſt coagulated (I meane almoſt cleane cold, neither liquid through heat, nor altogether cold) worke the *Terebinthina* with the *Mercury* altogether ſtrongly till it be cold. You muſt uſe it cold, and either let the Patient himſelfe chafe it in till it be warme, or (which is better) let the Patient ſtand before the fire and chafe it in. But note, he which anointeth others therewith, if he uſe it too often, let him put a bladder on his hands; for the often uſe thereof cauſeth many evils. This *unguent* hath as many vertues as vices, and as many vices as vertues: a whole weeke may be eaſily ſpent, with good profit to the Reader, in writing of *Mercury*: I heartily wiſh ſome learned and worthy man would take in hand truely to anatomize that ſubject: I am perſwaded, yea and know well, he might thereby ſave the lives of many an innocent ſoule, who with great infamy periſh through the inordinate uſe of this *unguent*; notwithſtanding the medicine is good. But I referre the Surgeons Mate, for the uſe of this *unguent*, to Mr *Clowes* his booke of Surgery.

But concerning the ordinary uſes thereof, if you anoint the joints therewith, it killeth the itch; but if you anoint too plentifully it provoketh a fluxe, ſometimes upward, ſometimes downeward. If you anoint the ſeames of his ſhirt which is lowſie therewith, it driveth away all the lice: the ſame it doth to the lice of the eye-browes and ſecret parts, wherewith many are troubled. Alſo for the piles it is a very good medicine; I uſe it in that caſe, firſt to purge the Patient, and after to anoint him with *Unguentum album*, wherein Quick-ſilver is mixed; namely, of the *unguentum* ℥ i. of *Mercurie* ℥ i. *miſce*, and anoint therewith daily three times, and keep the place very warme.

Linamentum Arcei.

I Cannot but reverence the Author of this precious plaine *Linament*; whoſe deſert is highly to be eſteemed of by the Commonwealth: for it is as ſufficient a Balme for new wounds, eſpecially in the head, as that a better can ſcarce be found out by art. It doth all the intentions of healing a wound in the head meerely of it ſelfe, the fluxe being ſtayed: For it digeſteth, mundifieth, incarneth, and cicatrizeth, it defendeth from accidents, and is very anodine: it may alſo fitly bee applied to painefull ulcers and fiſtula's upon occaſion. The Author or manifeſter

of

of this *Linament* was *Franciſcus Arceus*, as is manifeſt by a ſmall treatiſe of his, tranſlated by Mr *John Reade* a Surgeon. It is of temperament hot and moiſt.

Vnguentum Aragon.

THis *unguent* is numbred amongſt the foure hot *unguents*. It profiteth generally againſt all cold affects of the outward parts of the body: it much warmeth and comforteth the ſinewes: it is good againſt convulſions and cramps: it is good to annoint the ridge bone of the backe, and the parts neere the kidneys againſt the paines thereof: and alſo to anoint the ſtomack and belly upon any cold griefe: it is good to anoint the body of them which have the quartane fever, the falling ſickneſſe, the paines of the joints: and alſo it is good to be uſed as a *Morbous ointment* (according to the common phraſe) adding the due quantity of *Mercury* thereto; which I account to be of *Quick-ſilver* ℥ ii. to the *unguent* lib. i. But I finde it will not retaine his vertues above one yeare, as witneſſeth *Johannes Jacobus Weckerus*: wherefore I forbeare this compoſition in the Surgeons Cheſt.

Vnguentum Martiatum.

THis *unguent*, as it is compoſed of many ingredients, ſo it is ſaid to be effectuall for many griefes: for (ſaith the Authour) it diſcuſſeth cold cauſes in the head, ſinewes, and joints: it removeth pain from the breaſt and ſtomacke proceeding from cold: it prevaileth againſt convulſions: it helpeth the reſolution of the ſinewes, dead palſie, and them that are troubled with the *Sciatica* or hip-gout, the gout in the hands, feet, and other joints of the body: it mollifieth hard puſcles and tumors in the fleſh: it aſſwageth the hard ſwellings of the liver and ſpleene; eaſeth the pain in the ſmall guts; it cureth the ache in the reines. It hath his name (as *Salaritanus* ſaith) of *Martianus*; or as *Maulius* (which is more probable) ſaith, of *Martiatus*, a moſt skilfull Phyſician, ſuppoſed to be the inventor thereof: and it is deſcribed in the Diſpenſatory by *Nicolaus Alexandrinus*; who alſo deſcribeth the vertues thereof, in effect as is here ſet downe.

Axungia Porcina.

IT is called *Axungia*, of anointing the Axle-tree, to make the wheeles turne eaſier about, for which cauſe many uſe it to this day. It is liquid, flowing like oyle with warmth: it hath a lenifying and anodine qualitie, and therefore it is not unprofitably uſed for mitigation of ſharp humours, aſſwaging of paine, healing of burnings with fire, and very fitly mixed with *Cataplaſmes* appointed for thoſe effects.

Axungia Cervi.

THis *Axungia* is of a hot nature, doth aſſwage aches, reſolveth and mollifieth hard tumours in any part of the body. And by experience

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is found very good, adminiſtred in Gliſters, to heale the excoriations of the *Inteſtinum rectum*; for it is anodine and very ſanative. The manner to uſe it, is ſomewhat touched in ſome other my inſtructions elſewhere.

Mel ſimplex.

ENgliſh honey being yellow, the ſavour and odour pleaſant, ſharpe, pure, ſincere, cleare, faſt or ſtiffe, yeelding little ſpume in decocting, is good and very profitable for thoſe that are coſtive, as alſo for the ſtomacke if one drinke it with water: it helpeth the bladder and reines: it is good for the eyes: it mundifieth, openeth, and healeth. As for burnings and ſcaldings, it cureth them without ſcarre, and is very good to heale ulcers of the eares; and (ſaith *Dioſcorides*) drunke with water is wholeſome for the belly and ſtomacke: it helpeth ſuch as are pained in the kidneis and bladder. It is alſo good to anoint the eyes with, to cleare the dimneſſe of ſight in them: it hath an abſtergent or cleanſing force: it openeth the mouths of veines, whereby it alſo draweth out ſordid matter or quittur from fetide ulcers. But the beſt honey of all other, is that which is gathered in *Lituania*, a Province of *Polonia*, where the Bees breed onely in high trees, and gather their honey from a certaine flower growing on trees, called in Latine *Flos Tiliæ* or *Tili*, in the Germane tongue **Linden holt.** This honey is white, hard, and very fragant or odoriferous.

OF

OF THE VERTUES AND USES OF SUNDRY CORDIAL WATERS.

FOraſmuch as compound cordiall waters, truely made of the Spirit of wine, with the addition of divers eſpeciall coſtly and medicinall ſpices, drugs, and other precious additaments now much in uſe, have been found very available and comfortable by many experiences, not onely at ſea, and in the very remoteſt parts of the earth, either hot or cold, to our nation, and others in their travels; but alſo here at home, upon many occaſions, have miniſtred great helpe and comfort, both in preſerving the body in health from diſeaſes, and alſo in curing many great infirmities, eſpecially when they have proceeded of cold cauſes; I thought it a thing not unneceſſary, briefly to ſet down the vertues and uſes of ſome of the principall of them, for the benefit of young Surgeons.

Aqua Cœleſtis.

MAthiolus in his Commentaries upon *Dioſcorides*, ſetteth downe this excellent water, as a principall Antidote or preſervative againſt all poyſons, or poyſoned and infectious aires whatſoever, for that either received into the body, or but onely ſmelled unto, it helpeth very much againſt infections, and that it doth very admirably reſtore againe one fallen either of the dead palſie, or falling ſickneſſe; and is alſo good either in the collicke or any gripings of the guts, as alſo in any the weakneſſes of the ſtomacke, and againſt any cold fluxes of the guts or belly, two ſpoonfuls thereof given in a gliſter, and hath many more eſpeciall good uſes and vertues there ſet down, which for brevity I muſt paſſe over.

Dr Steevens his water.

THis Water needeth no man to deſcribe his vertues, being a thing ſo common and ancient in uſe, compoſed by that learned Phyſician of worthy memory ſo named. Experience hath found it to be a notable cordiall water for comforting the head and heart, yea, and all the principall faculties of the body, both animall, vitall, and naturall if it be truely prepared: and of this there needeth no queſtion, if you will but beleeve the ſeller thereof.

Roſa Solis.

THis *Roſa Solis*, or rather *Roſſolis*, taketh his name of an hearbe ſo called; which hearbe is very medicinable; as namely, againſt conſumptions, it hath beene often approved and found a certaine remedy. But the *Roſa Solis* compoſition being without deceit made, is far more precious; for it comforteth the ſtomacke and braine, helpeth digeſtion, ſtrengthneth the appetite, openeth obſtructions, is good againſt the palſie and falling ſickneſſe, and hath many other vertues.

Cynamon Water.

THis Water doth comfort and ſtrengthen the ſtomacke, the liver, the milt, the lungs, the heart, the braine and the ſinewes; ſharpneth the ſight, is good againſt venoms, as alſo the ſtingings and bitings of venemous beaſts; helpeth a bad or evill ſavouring breath; is good againſt loathing of the ſtomacke: and where you deſire to warme, to open, to attenuate, digeſt or corroborate, in all ſuch caſes this precious liquour excelleth: witneſſe *Johannes Jacobus Weckerus*, alledging *Mathiolus*; yea, and divers other famous Writers, beſide Experience it ſelfe.

Limon Water.

THis is the tincture and chiefe eſſence (drawne by the ſpirit of wine, from the rindes of Limons) which is a great reſtorative to mans nature, and a precious Cordiall, which not onely aromatizeth the ſtomacke, but much ſtrengthneth the feebled Spirits, and is as an healing balſame to all the inward parts of the body, and doth open obſtructions and breake the winde in the ſtomacke exceedingly. Juyce of Limons is touched elſe where in the cure of the Scurvie.

Roſemary Water.

THis is a great comforter of the braine, ſharpneth the ſight, helpeth the weakneſſe of the ſtomacke, preſerveth from vomiting, is very good againſt the diſeaſe *Dyſentery*, or the bloudy flixe (the cauſe proceeding of cold) either drunke, or three ſpoonfuls taken in a Glister, when you are ready to adminiſter the ſame. It hath very many other good properties too long here to recite.

Saſſafras Water.

THe Spirit of this precious root is a great opener of all obſtructions or ſtoppings in the body; namely, of the liver, the lungs, the kidnies, and of the ſplene; and thereby it is found by many experiences excellent againſt the Scurvie, the French diſeaſe, and the yellow jaundiſe; it is an approved remedy alſo againſt cold fevers, and the dropſie, or for thoſe which are enclining thereto; for it provoketh urine and ſweat, in a very mild and naturall manner, and driveth out many diſeaſes by the pores of the skin. It hath infinite more vertues aſcri-

bed unto it: the beſt of theſe rootes grow in *Virginia.* You may read *Monardus* of the vertues of this roote more at large in his Treatiſe of New Spaine.

Aniſe-ſeed water.

THis water, as the former, and alſo thoſe which follow, have all their ſubſtances from the Spirit of wine, and muſt therefore, being truely ſo made, retaine the manifold good vertues thereof: and beſides, having therein the whole vertues of the *Aniſe-ſeeds*, it is found very excellent againſt winde in the ſtomacke or elſe-where in the body, and againſt *Aſma*, the *Tiſicke* and ſhortneſſe of breath: it alſo breaketh flegme, and warmeth the ſtomacke.

Worme-wood Water.

NO water whatſoever more gratefull to the ſtomacke, then is *Worme-wood water* truely compoſed; for it is as balſame thereto. It conſumeth and breaketh winde mightily, killeth the wormes, whereunto our Nation are ſubject in the *Eaſt-Indies*, hindereth vomiting, provoketh appetite, is very good againſt paines in the head proceeding of a cold cauſe, and is very Cordiall.

Balme Water.

THis water hath a great reſpect to the heart, for of all other but the former, no herbe is eſteemed more cordiall then this, and is of a gratefull ſmell and taſte; yet I hold it more proper to women then men, for it much reſpecteth the infirmities of the Mother, and is, in the times of their paines, very comfortable to take a little of it for the ſafer and ſooner provoking of ſpeedy delivery.

Angelica Water.

ANgelica water, may ſerve well in ſtead of *Treakle* or *Mithridate*, for a preſervative againſt the plague or any infectious ayre, for there is no one thing more commended by ancient and moderne Writers in that kinde, then *Angelica* is, whereof there is good experience: it is alſo very ſtomachicall and cordiall, and, being truly made, will retaine his ſtrength and vertues forty yeeres and more.

Mint Water.

AQua Menthæ doth warme and ſtrengthen the ſtomack, liver, ſplene or milt, helpeth concoction, ſtayeth vomit, and is very Cordiall.

Aqua Cardui Benedicti.

CArduus Benedictus Water, doth eaſe the paine of the head, confirmeth the memory, cureth a Quartane, provoketh ſweat, and comforteth the vitall Spirits.

The

The Concluſion.

ALl theſe waters and ſpirits rehearſed, though in themſelves they be good, yet if any of the beſt of them be abuſed, and immoderately taken, they may as ſoone doe harme as profit: I adviſe therefore no man to make a common uſe of them, or any of them, which hath a young able body, and may have a good diet at his pleaſure: for they are chiefly to bee uſed at ſea, where mens bodies (by variety of the venemous vapours and evil diſpoſitions of the aire, or unkind diet) are in hazzard; or where there is a weake ſtomacke, evill digeſtion, with a loathing diſpoſition to meat, evill appetite, and too much looſneſſe of the belly; alſo where by extreame heat and ſweat, the ſpirits of the body are exhauſted and ſpent, or where (through the extreame cold of the ſame) the body is much annoyed and endangered: In all theſe, and infinite more evils incident to mens bodies abroad and at home, theſe precious liquors miniſter preſent comfort. They alſo are very behovefull to aged people after their meats to help digeſtion, or them which have weak ſtomacks, or that are of ſad and melancholy diſpoſitions; for it muſt not be denied, that wine comforteth the heart of man; and theſe waters having their originall and whole force from the ſpirit or life of the wine, doe thereby exhilarate mans heart, and give him courage, as well as cure his infirmities.

If therefore theſe waters be truly made, they ought alſo to be ſtrong of the ſpirit of wine, otherwiſe, they will not keep long good, neither are they profitable nor wholſome, and being good, one ſpoonefull at one time is ſufficient, or two ſpoonfuls at the moſt, for the preſerving of health: they are beſt to be taken faſting, one houre or two after dinner, and laſt at night, either alone, or with beere or wine; ſome make a toſte faſting, and drop the ſame full of cordiall water and ſo eat it, and that is very good.

In gripings of the guts, collike or flixes of the belly, proceeding of cold cauſes or much crudity, three ſpoonfulls or foure may be uſed at once in a Gliſter; but you muſt not boyle it therein, only put it in when it is ready to be adminiſtred; for if you do otherwiſe, the ſpirits will evaporate and be of no force.

Aqua Roſarum Damaſcenarum.

DAmaske Roſe-water doth refrigerate and comfort the heart, is good againſt ſwouning, and cauſeth ſleepe.

Aqua Roſarum Rubrarum.

REd Roſe-water doth refrigerate, binde and corroborate the vitall and animall faculties, benefiteth the head, eaſeth the pained eares and eyes, and doth good in Inflammations, and is profitable in medicines againſt *Dyſentery*.

Aqua Odorifera.

SWeet water is very neceſſary and profitable to aromatize the body, and refreſh the ſenſes; it ſweetneth the garments, taking all offenſive ſavours away, and doth much exhilarate the ſpirits, being well compoſed of true Aromaticke Ingredients.

Aqua Plantaginis.

P*Lantane water*, is aſtringent and ſanative, good to them that are in a conſumption of the lungs, in a dropſie, or that have the bloudy flixe, good alſo againſt the quartane ague: it cureth the ulcers of the reines, bladder, and excoriations of the paſſage of the yard, and being drunk, helpeth againſt ardent urine, or the ſharpneſſe of the water.

Aqua Falopii.

FOr this water, if you deſire the compoſition thereof, I referre you to the Authour; namely, *Gabrielus Falopius*, in this Treatiſe *De Morbo Gallico:* but hereafter I meane to ſet downe ſome ſeverall compoſitions thereof; for the Authour hath divers.

It is a water proper, and is made chiefly of *Mercury* ſublimed, I ſay *chiefly*, for that though the other things for quantity be ten for one, yet ſublimed *Mercury* will carry no coales, but will ever ſhew his valour in healing or ſpoiling: I put not this compoſition ready made into any Surgeons Cheſt, but rather leave the Ingredients, and let the diſcreet Surgeon make it to pleaſe himſelfe; for if I my ſelfe ſhould find ſuch a compoſition made by any, I ſhould much feare to uſe of it, and ſo I wiſh the Surgeons Mate to doe in all Mercuriall Lotions; but rather let him uſe ſuch other good Lotions, as are ſet down in the cure of the Scurvy; unto any of which hee may adde ſublimate, and terme it if he pleaſe, *Aqua Falopii:* but I ſay let him well underſtand himſelfe both in the compoſition, and adminiſtration of any ſuch medicines, or let him crave advice, or rather forbeare them, and uſe other ſafer medicines, though their vertues or vices perhaps be fewer.

Aqua viridis.

THis Greene water (which is held a maxime by ſome Surgeons) hath his tincture from *Viridi Ære*, and likewiſe his aſtringent taſte and vertue. His chiefe uſe is concerning the cures of *Opthalmiæ* in the eies, and alſo againſt divers rheumes, or diſtillations of humours troubling the eies, *guttatim* or drop-wiſe adminiſtred; for the deſcription whereof, I referre the Reader to the reſt of my compoſitions, where they ſhall be found together; but I uſe in place thereof *Lapis medicamentoſus*, which in his place alſo ſhall be ſpoken of.

Aqua

Aqua fortis.

A *Qua fortis* or ſtrong water, I have, to ſatisfie ſome Surgeons, put into their Cheſts; but for my ſelfe, I ſee no reaſon for it, nor doe I know any Chirurgicall uſe it hath, which is not much better performed by oyle of *vitrioll*; whereunto I referre you rather, for that it is a farre ſweeter and ſurer medicine, as at large ſhall be ſpoken of in his place.

Verjuce.

VEruiſe or Verjuce, made of the juyce of Crabs, is a good cooling medicine to be given in drinkes againſt burning fevers; it helps digeſtion, cauſeth appetite, relliſheth well meates and drinks, and is cordiall, familiar, and pleaſing to the taſte; but it will not live above one yeere in good force at Sea, yet I give way to the putting it into the Cheſt, for that it is often deſired by Surgeons.

Lotion.

THis word *Lotion*, is a generall phraſe with many Surgeons, as if there were no difference in *Lotions*, whereas their differences are infinite: but here I will uſe it as the vulgar ſort doe. A *Lotion* compounded of vulnerary hearbs gathered in their prime, and decocted with *Allumen* and *mel* in *aqua pura*, I confeſſe may retaine a name generall as well as any one outward medicine I know; for if well prepared, good uſe may be made thereof; as namely, it is all in all to bee uſed as an injection generally for griefes of the yard, as well within the paſſage as alſo twixt *glans* and *præputium*, and in *Gonorræa*; which though it cannot cure the diſeaſe, yet it healeth the excoriations thereof, and ſtrengthneth well the parts; and ſo doth it in all exulcerations of the ſame, remembring, that if you uſe it within the paſſage of the yard, if you find it bee too tart of the Allome, you mixe it with Plaintane water if you have it, or for want thereof with faire water. Note, that the firſt time you begin injection, it be very gently done, then you may fortifie it as you ſee cauſe; namely, give it of it ſelf, or with the addition of a little well dulcified *Mercurie* where occaſion is, but that warily; namely, ſeldome or never within the paſſage, but twixt *glans* and *præputium* daily (if you will) upon juſt occaſion; and adminiſter no *Lotion* within the paſſage of *Virga* cold, but warme ever. Further it hath the prime place, for a Catholike medicine in exulcerations and excoriations of the mouth and throat, both in Towne and Country, and is become in ſuch caſes every old wives medicine: I have touched it in the cure of the Scurvy, wherefore here for brevities ſake, I crave pardon: Onely, let me tell the Surgeones Mate, that in want of ſuch a *Lotion*, though it be not in all points anſwerable thereto, yet he may make a good *Lotion* at ſea of freſh water, Allome, and Hony, provided he be wary not to bee too plentifull of the Allome.

Lixivium

Lixivium forte.

THis is to be underſtood of Capitall lees, a very neceſſary medicine to be at hand in the Surgeons Cheſt, to mollifie the liquid or white cauſtike when it groweth dry, and alſo if need be, by decoction *per ſe* to make up a *lapis infernalis*, as ſome terme it, or a hard cauſticke ſtone: the liquid cauſticke is made only of unſlaked lime and ſtrong Capitall lees, by decoction together to the thickneſſe of an *unguent*, and when occaſion of application thereof is, lay on the griefe a *Minium*, or ſome other cleaving Emplaſter, with a hole cut therein, ſo big as there ſhall bee occaſion to make an orifice, and ſpread thicke the white cauſticke thereon, and ſo let it remaine at the leaſt two houres, having a care to defend the ſame, that it doe not ſpread.

The cauſticke ſtone if you boile it to a juſt conſiſtence, and having put it out (being yet warme) ſmooth it over with an iron ſplatter, & then with a knife cut it into pieces, ſo you ſhall have it ready to make inciſion after your owne will; for any cauſticke laid on an Apoſtume may ſpread further & broader then your will, to the dammage of the Patient, but this kinde of cauſticke you may hold in your hand wrapped in ſome clout or piece of plaſter ſpread, and ſo you may rule it at your owne deſire, and yet it maketh greater ſpeed with leſſe paine then the other. Somewhat of this manner of inciſion I have mentioned in the cure of Apoſtumes, and elſewhere, to which I referre you.

Lixivium commune.

FOR this medicine I referre you to the Treatiſe of Salt in generall.

Acetum Roſarum.

UNderſtand that vineger of Roſes is, or ought to bee vineger of wine firſt, and then by the infuſion of choiſe red roſe leaves, it becomes the more fragrant and cordiall, ſo that it is the better to aromitize the ſtomack, and to refreſh nature weakened, and againſt the fainting and great weakneſſe of the ſpirits, wherein the tincture of roſes hath a great vertue comfortative.

Yet let not the Surgeons Mate bee diſcouraged though he have not *Acetum roſarum*, for *acetum vini*, or wine vineger, will ſerve well in place thereof; and yet 'tis better if you have Roſe-water to infuſe therein upon occaſion of uſing the odour thereof; or for to be applied to the ſtomacke againſt vomiting, or imbecility of the ſame. In other caſes the one may ſtand for the other very well, as alſo for thoſe griefes.

Acetum vini.

WIne Vineger helpeth the unnaturall ſwellings of the belly, as alſo cureth the fluxes of the ſtomack, the parts grieved being fomented

ted therewith: it ſtayeth the inordinate menſtruall fluxes, the region of the liver or the bearing parts fomented therewith warme; namely with *ſtupes* wet therein. It is good againſt vomiting, the ſtomack outwardly fomented with warme *ſtupes* wet therein: It alſo diſcuſſeth and diſſipateth violent hot tumors in their beginnings; yea, even thoſe which are named *Panaritiæ*, or, as ſome terme them, fellons. Good wine vineger excelleth, uſed in *Cataplaſmes*, as alſo in fomentations where anodine Medicines are to be uſed, provided the place be not excoriated; as namely, in *Hernia humorali*. With beane-meale, and oyle of Roſes, it is a preſent help being well applied, with apt truſſings, and good care had. In the falling downe of the fundament it is approved good, ſometimes with wine uſed warme to foment the part withall, as alſo to bee caſt on bricks to receive the fume thereof. In the hot Gout, and in all inflammations, as the *Roſe*, or *Ignis ſacer*, or (as ſome call it) Saint *Antonies fire*, by way of fomentation with wine vineger, it is a precious helpe; as alſo made into a ſirrupe with hony, then tearmed *Oximell*; or with Sugar, then tearmed *Oxiſaccatum*: it is very convenient to a weake ſtomacke; for it cauſeth appetite, and is a helpe to digeſtion, given ʒ i. or ʒ ij. at once, for it cutteth away flegme and refreſheth nature, and corroborateth the ſtomacke; alſo by way of a Gargeriſme, it is an approved remedy againſt *Squinantiã anginæ*, or any the ſudden inflammations of *Columelle*, or the *Amygdales* of the throat; and if *Roſes* be put therein, it is good for all the aforeſaid uſes, yet more, better, and maketh the vineger much more Cordiall: It is very queſtionable, whether wine vineger bee of temperament hot or cold, conſidering the different effects thereof, for I ſhould not doubt to give reaſonable content to any unpartiall Artiſt, that it doth both the effects of a hot and cold medicine, proving it both by authority and practice to be hot and cold; yea, even by *Galen* himſelfe, *Teſte cap. 6. lib. prim. ſimpl: med. & cap. 20. ejuſdem lib.*

Spiritus vini.

SPirit of wine of all vegetables is the moſt precious thing; it is the trueſt of all Cordialls: the particular vertues whereof, to be duely handled, would fill a great Volume; It is called, as is ſaid, *Spiritus vini, quaſi Spiritus vitæ*; and the ſacred Scriptures teſtifie that wine makes glad the heart of man, wherefore there needs no further argument to expreſſe it to be a true Cordiall. It is odoriferous and of a pleaſant taſte: It extracteth out Tinctures from every medicinall ſubject.

It preſerveth the body from putrefaction, and in every cold oppreſſion of Nature it is a true helper; for the cough, and all diſtillations of rheumes and fluxes, it is a perfect helpe: It comforteth the ſtomacke, and provoketh appetite.

It helpeth thoſe which are thicke of hearing, one drop daily put into the eare.

It preſerveth a man in health, if every morning and evening hee take certaine drops thereof; and defendeth the body that taketh it, from the oppreſſion of infectious aires, and (being ſicke) almoſt in any diſeaſe it may ſafely bee given as a true reſtorative medicine. All ſorts of

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the Cordiall ſtrong waters recited, for ſo much as they containe of *Spirit of wine* in them, as is ſaid, become thereby (if not otherwiſe) Cordiall indeed; for take from them the Spirit of wine they containe, and the remainder is not worth the roome in a glaſſe. Much might here to good purpoſe be taught of the true uſe of Spirit of wine for the cure of wounds, ulcers, fiſtulaes, and many other infirmities, if time would ſerve, which, for brevities ſake, I purpoſely pretermit at this time.

Spirit of Vitrioll.

FOr this medicine I referre the Reader to the generall Treatiſe of *Salt*, and to that part which mentioneth *Oyle of Vitrioll*; where hee ſhall be ſatisfied.

Spirit of Terebinthine.

THis Spirit of Terebinthine is a ſubtile, volatile, pure, and a Chryſtalline ſpirit extracted from *Terebinthina*, which how much the more noble the ſubject is, ſo much the more excellent will the ſpirit bee. It hath many precious vertues medicinable contained in it; for it is wholly combuſtible, penetrative, of a warming and comforting faculty: it is a good *menſtrum* to draw Tinctures by, either from vegetable or minerall medicines, and chiefly it is uſed to extract the Tincture from Sulphur, which Tincture is a ſingular good medicine many wayes, as in his proper place I meane to touch. This ſaid ſpirit is a true Balſame in the cure of all new wounds, eſpecially of the ſinewes. It comforteth all the ſinewie parts of the body afflicted with any cold impreſſion, as convulſions, the Scurvie, or the like. It provoketh urine very well if 10. or 12. drops be taken in wine faſting, and drives out gravell and the ſtone. It is alſo good to conſolidate any inward wound penetrating into the body, a few drops thereof daily drunke. It is a fit addition for any *Unguent* ſerving for a cold diſeaſe to amend the warming force thereof, and to cauſe it to penetrate the better. It hath many other ſingular good uſes, which for brevitie I muſt paſſe over.

The white Cauſticke.

THis kind of Cauſtick taketh his vertue from the vegetable ſalt it containes, and may well be carried in the Cheſt, for that it will laſt well an Eaſt-India Voyage, with (ſome times) the addition of a little capitall lees, as need ſhall require; namely, when it groweth too hard. It is altogether as ſafe and ſure as the Cauſticke ſtone, but not ſo ſwift in working, neither ſo well to be ruled; for it will often ſpread three times as wide as it is intended, if it be not warily prevented: which thing is dangerous to the Patient, and diſgracefull to the Artiſt. Wherefore if I had capitall Lees I would rather boyle up the Cauſticke ſtone; but then againe, except the Surgeons Mate know the true height of boyling it, & can cut it into pieces one half inch long (as is ſaid) & with

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one of the ſaid pieces held in his one hand can perforate the apoſtume, otherwiſe it is all one with the former white Cauſticke; for being laid on, it will become liquid as the other. It is not ſufficiently ſafe to cut a hole, (as the uſe is) in a ſpread emplaſter, of the bigneſſe he would have his orifice, and ſo lay it on, and cover it with a like emplaſter; for that this courſe cannot hinder the ſpreading thereof; but if he will worke ſurely after that faſhion, I meane with any potentiall cauſticke medicine, let him cut from a roll of ſome ſoft emplaſter that will cleave well, a piece of one ounce in weight, or thereabout, and make of it two long rolles, laying one on each ſide the place of the apoſtume appointed to be pierced, bringing them at each end together, for the ends of a cauſtick inciſion ought to be narrow, and the middeſt broad, if it be artificiall; at leaſt twice as long as broad is a good forme, and rather more. Regard alſo that your inciſion be made (as neare as may be) according to the length of the fibres and muſcles, and alwayes that it be ſo made, that one end be more dependent then the other: But in Bubo's of the emunctories, it will ſeldome fall out ſo, for that you are conſtrained to follow the forme of the tumour, which commonly lieth thwart, chiefly in venereall Bubo's *in inguine*, or the groine. Likewiſe if the tumour be full, and the Patient in great paine, you ſhall doe him great eaſe by piercing the *Esker* in the middeſt, ſo ſoone as it is made, to diſcharge ſome of the matter. But note this as a generall rule, never preſſe out the matter too forcibly, nor take too much at once out. For howſoever you may juſtly alledge and conceive, it is putrid and offenſive matter, yet know, it containeth naturall calour, and ſome ſpirits, and any ſudden evacuation thereof will weaken and perhaps overthrow your Patient. Wherefore except ſome extraordinary cauſe urge you thereto, force not much matter from a ſuppurated Apoſtume, but leave that worke to nature onely, and hinder not the due courſe thereof, by the fooliſh uſe of ſtopping the orifice with a tent; for ſo thou ſhalt become an enemy to thy Patient, and not onely hinder his naturall help (farre above thy artificiall helpe) but alſo uncharitably thou wilt choke him up in his owne excrements; which beware of. And for the furthering the fall of an *Esker* in any Apoſtume, where nature hath a breathing, it is meere folly, as I have ſaid in other place. The longer it lyeth on, the better I like the work, and if you would uſe all the art you can, you cannot keep on an *Esker* at your will: wherefore forget that worke till it be done to thy hand.

I have much (in my good will) to write of this ſubject, namely, of the manner of preparation, keeping, and ſundry ſorts of application of the ſame cauſticke, and divers other neceſſary inſtructions of the ſeverall uſes of the ſame medicine in divers parts of Chirurgery, as well as in the opening of tumours, but my haſte calleth me to the next: Wherefore at this time I crave pardon.

Sal Abſinthii, Gemmæ, & Nitri.

WHat my leiſure hath not here permitted mee to ſpeake of them or any Salt elſe, I have rehearſed in my Treatiſe generall of

Salt in their particular places, to which I referre the friendly Reader. The *Index* will guide him thereto.

Oleum Roſarum.

OYle of Roſes is anodine, and doth refrigerate and corroborate, and therefore is good againſt hot diſeaſes, as *Eryſipelas*. Alſo with *Mel Roſarum* it is a good Balm for new wounds of the head, and elſewhere; and hath divers other worthy uſes in Chirurgery.

Oleum Anetheninum.

OYl of Dill is anodine and comforting, it concocteth crude tumors, cauſeth ſleepe, mitigateth the head-ache, refreſheth the wearied members, ſtrengtheneth the ſinewes, diſcuſſeth winde, is profitable for convulſions, and aſſwageth aches, eaſeth paines, and hath many other good uſes.

Oleum Chamomelinum.

OYle of Chamomill reſolveth moderately and calefieth, by anointing the parts grieved: is good for the collicke, ſtone, wearineſſe, and for aches, fevers, and for all other things with the former. It is alſo very convenient in Gliſters for all gripings and tortions of the guts, and yeeldeth great comfort to the intrails by the good odour and warmth thereof.

Oleum Lumbricorum.

OYle of Earth-wormes helpeth the aches of the joints in any part of the body, and doth ſtrengthen and comfort well the ſinewes weakned and pained, and is good againſt convulſions & cramps; it is alſo a good Balme for ſinewes wounded.

Oleum Liliorum.

OYle of Lilies doth moderately warme and reſolve, aſſwageth paine, mollifieth hard tumours, doth much mitigate the violence of diſeaſes, and is very effectuall againſt paines of the breaſt and ſtomacke, and allayeth the inordinate heat of the reines and bladder.

Oleum Hipericonis ſimplex.

OYle of St. Johns wort ſimple is of a thin eſſence: it is of temperament dry and anodine, healing ſinewes pricked or wounded. Alſo it is very profitable to them that have the *Sciatica* to anoint them againſt the ſwellings in the Temples, Belly, and Legges through Melancholy: and it is of very good uſe for cold aches and convulſions, cramps, burnings, ſcaldings, and good to cure new wounds.

Oleum Hipericonis compoſitũ,
Oleum Aparici, or,
Balme Artificiall.

THeſe three ſeverall names of oyles, or different medicines, according to that I intend in the Surgeons Cheſt, are but one and the ſame medicine. A better Balme then which, to heale new wounds, the Surgeons Mate need not deſire to learne or know. Some Writers call it by the name of *Oleum Hipericonis cum gummis*, ſome, *Oleum Aparici*, ſome, *Balm Artificiall.* The compoſition whereof (with the reſt) ſhall follow.

It is beſt to be uſed in wounds, as hot as the Patient can endure it, and for the firſt time rather hotter. It is a ſure medicine for all venemous wounds, all bitings of mad dogges, or of venemous wormes, very hot applied, and the parts about anointed therewith warme; remembring in all venemous griefes a Cordiall is alſo requiſite. In my owne practiſe it is almoſt all the unctious medicine I ever uſe, for the curing of wounds and contuſions; and I never repented my ſelfe of the uſe thereof. In piercing wounds and ſtabs it is a medicine a Surgeon may well relye on; it will not diſgrace him. It is a very comfortable medicine againſt all paines, aches, and witherings of the outward limbes proceeding of cold cauſes, uſing it warme with good friction, and a plaſter of Burgundy pitch ſpread on leather and applied thereon; or rather *Empl. Stipticum Paracelſi.*

I ſpeake this of practice, and I could ſay much more of my owne experience, touching the praiſe of this worthy medicine, if time would ſerve: but for this preſent accept of this abridgment.

Oleum Sambucinum.

OYle of Elder-flowers doth lenifie and purge the skin, is good for the obſtructions of the liver, helpfull for the joints and nerves pained, the parts grieved being anointed therewith: given in gliſters, it procureth ſtooles, healeth the yellow Jaundiſe, amendeth belly-ache, and eaſeth the griping paines thereof.

Oleum Lini.

OYle of Linſeed is anodine, cureth convulſions, mitigateth the hardneſſe of the arteries, muſcles, and nerves, aſſwageth the pain of the Hemorrhoides: and helpeth the unnaturall clefts, chaps, and fiſſures of the fundament.

Oleum Ovorum.

OYle of Egges cleanſeth the skin, taketh away the filthineſſe, and all the ſcarres thereof, occaſioned by cuts or bitings, or at the leaſt much diminiſheth them, ſo that they can hardly be ſeene: it cureth burnings, killeth ring-worms, healeth excoriations, and is prevalent

againſt any ulcer, chaps, or ill matter ariſing out of the fleſh, either in the hands, feet, armes, legges, or in any other part of the body.

Oleum Laurinum.

OYle of Bayes is a medicine calefying, mollifying, opening and diſcuſſing; it doth much mitigate the Collicke, delivered into the body by gliſter; it is a preſent remedy againſt cold griefes of the braine, nerves, arteries and loines, the parts anointed therewith; it repreſſeth the violence of a fever, the *ſpina dorſi*, or region of the backe bone anointed therewith; it is good for the Palſie, Sciatica, the hardneſſe and paines of the ſpleene, and is much uſed, as well to cure the ſcab and ring-worme, as the Scurvie.

Oleum Abſinthii.

OYle of wormewood doth calefie and corroborate, eſpecially the ſtomacke, raiſeth an appetite, concocteth crude humours, diſſipateth and diſperſeth winde, killeth wormes, and taketh away obſtructions proceeding from a cold cauſe, the parts grieved being anointed therewith; and likewiſe it is good in gliſters for the like occaſions.

Oleum Papaverum.

OYle of Poppies cureth the intemperature of heat in the reines and fevers, and procureth ſleepe being anointed on the noſe, temples, or eares; maketh lubricke, and lenifieth the ſharpe arterie.

Oleum Petreoli.

OYle of *Peter* is hot and dry, and by the tenuity of the eſſence thereof, doth penetrate and digeſt all excrementall matter: it is uſed with profit for the falling ſickneſſe, palſie, giddineſſe of the head; and is good for many other griefes ariſing from cold cauſes.

Oleum Scorpionum.

OYle of Scorpions is of eſpeciall uſe to breake the ſtone in the reines and bladder; and *Manardus* commendeth it againſt the peſtilence, all contagion and fevers, but chiefly in expelling poyſon. It is likewiſe good to aſſwage the paines of the backe, proceeding by diſtempered kidneyes.

Oleum Amygdalarum dulcium.

OYle of ſweet Almonds doth lenifie the roughneſſe of the breaſt and throat, as alſo the hardneſſe and drineſſe of the joints, is good againſt the conſumption of the lungs: it is alſo of good uſe to be drunke in the hecticke fevers: it ſtayeth the cough, aſſwageth the heat of urine, healeth ulcers

ulcers by injection, is very good in *Colica* or *Iliaca Paſsio*, to be drunke and adminiſtred in gliſters.

Oleum Amygdalarum amararum.

OYle of bitter Almonds doth open obſtructions, diſcuſſeth winde and vapours; but chiefly it healeth deafneſſe, the hiſſing and paine of the eares, lenifieth the hardneſſe of the ſinewes, and maketh the face and hands faire, &c.

Balſamum Naturale.

NAturall *Balſamum* or *Opobalſamum*, is very good for them that are ſhort winded, for the obſtructions of the liver, and for griefes of the ſtomack; it helpeth the conſumption of the lungs, and cauſeth an appetite: beſides the excellent vertue ſanative it hath, both inwardly and outwardly in the cure of wounds, it hath alſo many other good vertues.

Oleum Vitrioli.

OYle of *Vitriol* is exceeding hot and cold, mixed in waters, decoctions, ſirupes or conſerves, maketh them in taſte, tart or ſoweriſh; and in colour, purple-like, delighting them that are ſick of fevers; freeth obſtructions, recreateth the bowels, and is very effectuall in the peſtilence, falling ſickneſſe, palſie, and ſtopping of urine. See more hereof in the treatiſe of Salt.

Oleum ſulphuris per Campanam.

OYle of *Sulphur*, made from the humide vapours thereof, is good to make the teeth white, to take away the morphew, cureth venereall ulcers, expelleth diſeaſes ariſing from winde or cold, is good againſt the falling ſickneſſe, ſhortneſſe of breath, evill affections of the lungs, eaſeth the tooth-ache, and is, being well prepared, a true cordiall medicine.

Oleum Garyophilorum.

OYle of Cloves not unlike to *Opobalſamum* in ſtrength, doth ſweeten the breath, driveth away putrede humours, diſcuſſeth winde, openeth the pores of the liver, digeſteth cold humours, diſſipateth the melancholicke humours, healeth old and new ulcers, ſtaieth the putrefaction of the bones, and aſſwageth the paine of the teeth proceeding from a cold cauſe.

Oleum Macis.

OYle of Mace doth calefie and digeſt cold humours, roborate the ſtomacke, helpeth concoction, raiſeth an appetite, and procureth many other benefits to him that uſeth it.

Oleum

Oleum Philoſophorum.

OYle of Philoſophers, or of tile-ſtones or bricke-bats, the eldeſt is the beſt: very like it is to *Oleum Petreoleum*: in vertue it doth attenuate and penetrate upward, digeſteth and conſumeth all excrementall matter, and is profitable for cold affections of the ſpleene, reines, bladder, nerves, wombe and joints; for the Lethargie, Apoplexie, and falling ſickneſſe, and many other the like griefes.

Oleum Aniſi.

OYle of *Aniſ-ſeeds* prevaileth againſt the collick ariſing from wind and cold, againſt the Tympanie, inflation, and crudity of the ſtomacke, againſt the gripings and the crying of the inteſtines, &c.

Oleum Terebinthinæ.

OYle of Turpentine is taken inwardly for ſhortneſſe of breath, the ptyſicke, againſt the ſtone, the collick, cold and windy affections of the breaſt: it is outwardly uſed for to heale ſinewes wounded, or troubled with any intemperature; alſo to fill ulcers with fleſh, and knit them up, leaving no cicatrice in them.

Oleum Juniperinum.

OYle of Juniper is commended for the cure of the morphew of the skin, it provoketh urine, and agreeth with the cure of diſeaſes of the reines; it is good to be taken certaine drops thereof againſt any peſtilentiall vapours; for the ſtone it is alſo good, and to be drunke certaine drops againſt penetrating wounds.

Oleum Spicæ.

OYle of Spike doth calefie, attenuate, diſcuſſe, and is very profitable to them that have the gout proceeding of a cold cauſe, or to comfort any member benummed: alſo it is good againſt the falling ſickneſſe and convulſions, the temples and nape of the necke, yea and the whole head to be anointed therewith, is very profitable.

Oleum Antimonii.

OYle of *Antimony* or *Stibium*, is good for them that have convulſions, or any aſtoniſhing diſeaſe, and other evill affections of the brain, foure graines thereof drunke, it aſſwageth the paine of the gout and collicke, cureth fevers, helpeth the bladder ulcerated, and wonderfully helpeth the canker, *Fiſtula phagedena*, the fretting or eating pockes, the wolfe, and all other ſorts of ulcers.

Oleum

is not alwayes by such light cordialls and gentle laxatives removed: their dose agreeth with that of *Pilulæ Aureæ*, they are very stomachall, for they refresh much the stomacke, and in any oppressions of the stomacke where gentle purging is required, they excell.

Benedicta laxativa.

Benedicta laxativa, or the blessed laxative, doth mightily open obstructions, purgeth choler, flegme, and all clammy humours from the joints, reines, and bladder: and is tearmed *Benedicta*, because it benignely looseth the belly. The dose is ℥ ii.

Pulvis Arthriticus Paracelsi.

THis is a laxative powder, made onely of foure vegetables, and one *Animal simplex*, with the addition of sugar, to give it the more gratefull taste: the dose is to ℥ i. at the utmost, besides the sugar: I can speake of the pleasure and profit I have had by this meane purging powder; I say pleasure, for that it is so pleasant and easie to bee taken; and profit to me many wayes; for it is my generall purging medicine, when I would purge downwards upon any repletion of the body, or generall cause of evacuation downwards; and I finde it indifferent in purging any offending humour, according to the commendations the Authour giveth of it; I can no more misse this plaine and harmelesse ready purge, then I can misse my Salvatorie. *Oswaldus Grallius*, a most reverend late Writer, hath set downe this onely purge for the cure of the *Podagra*, giving it this briefe commendation, It purgeth safely and gently all podagricall defluctions: and in truth, whosoever shall have occasion of the use thereof, will have cause to commend it, and knowing it, will finde small need of *Pulvis Hollandicus* or *Pulvis sanctus*, whose dose at sea must be at the least two dragmes, being nauseous and unsavoury, whereas ℥ ss. of this will doe as much with great facillity, and without tortions or gripings of the guts, which other compositions cause. I use to give it to strong bodies in white wine, to weaker in sacke; but at sea for a need it may be given in faire water, and some sirupe to helpe the taste thereof, which nevertheless is not ungratefull of it selfe.

Trochiscus de Absinthio.

Trochiscus de Absinthio or of wormewood (saith *Mesues*) taketh away the obstructions of the stomacke and liver, and intermitting or chronicall fevers sprung thereof, strengtheneth the bowels, and causeth an appetite.

Trochiscus de Alhandall.

Trochisci Colocynthidos, or *Alhandall* (as the Arabians speake) doe bring away thicke flegme, and all glutinous juices from the braine, nerves, and other more remote parts, they helpe the collicke proceeding

from a glaſſie tough flegme, the Apoplexie, Squinancie, fallingſickneſſe, ſhort breathing, cold and gouty diſeaſes, which ſcarce give way to common medicaments, and is deſcribed by *Meſues*; the doſe is gra. 4.

Trochiſci de Spodio.

Trochiſci de Spodio, ſaith *Meſues*, have their uſe in bilious fevers, which bring alſo a fluxe of the belly, they allay the inflammation of the ſtomacke, liver, and continuall thirſt.

Trochiſci de Minio.

Trochiſci de Minio, or the Trochisks of Minium, conſume proud fleſh, mundifie ſordid ulcers, as alſo callous or hard fleſh, and wonderfully cure fiſtula's: looke more thereof in *Johannes de Vigo*.

Folia Senæ.

Folia Senæ are hot and drie in nature, they are an excellent medicament for purging the belly; it ſcoureth away flegmaticke, tough, and melancholy humours from the braine, lungs, ſpleene, liver, ſtomacke and bowels, as alſo cleanſeth the body from aduſt and ſalt humours.

Rhabarbarum.

Rhabarbarum or Ruberbe, is hot in the firſt degree, and dry in the ſecond, of an aſtringent nature, and is good for the ſtomacke and liver, and againſt the bloudy flixe, purgeth downward cholericke humours, and therefore very profitably uſed againſt hot fevers, inflammations, and ſtoppings of the liver, &c. ℥i. is the full doſe.

Agaricum.

Agaricum or Agaricke, is hot in the firſt degree, and dry in the ſecond, purgeth flegme, freeth from obſtructions, attenuateth, cleanſeth, and diſſipateth winde, and helpeth all diſeaſes which ſpring from groſſe, cold, and raw humours: the doſe is ℥ i. But beware of the uſe thereof in the curing any fluxes of the belly.

Scammonium.

Scammonium is hot and dry in the ſecond degree, purgeth downward in vehement manner cholericke humours, and therefore is good againſt diſeaſes ariſing from the ſame, but if it be taken either too much in quantity, out of time, place, or unprepared, it is very dangerous, excoriating the guts, provoking bloudy excrements, procuring *Dyſenteria*, cauſing winde, offending the ſtomacke, and diſtempering the heart and liver: the doſe is eight graines.

Aloes

Aloes Cicotrinæ.

ALoes the beſt is hot in the ſecond degree, and dry in the third degree, removeth cold, flegmaticke and cholericke humours, by purging, digeſting, and driving them out: it is a ſoveraigne medicine for the ſtomack.

Hermodactili.

H*Ermodactili* are hot and dry in the ſecond degree, they doe effectually draw away flegme, and other ſlimie humours from the articles, and therefore are very profitable for the Gout in the hands and feet, and the Sciatica.

Polypodium.

P*olypodium* is dry in the ſecond degree, openeth the body, and bringeth away blacke choler and flegme, helpeth the collicke and the griping of the belly, and alſo the obſtructions of the ſpleene.

Cornu Cervi.

HArts horne is to be numbred among Cordiall ſimples in the higheſt place, it is given in want of Unicornes horne, and not unfitly; it comforteth the heart, is good againſt poyſon, provoketh urine, openeth obſtructions, eaſeth the collicke, diſperſeth winde, killeth wormes in the body, is good againſt paines of the reines, or bladder, and being taken upon each occaſion in liquors proper to the former griefes, it is much the better in force: Thus much is meant of Harts horne unburned; And being burned, the pouder thereof is very good againſt the bloudy, or any other fluxes of the belly.

Euphorbium.

E*Uphorbium* is hot and dry almoſt in the fourth degree; and beſides his extreme heat and notable acrimony, it hath a certaine faculty of purging, whereby tough and cold flegme, with choler and water are taken away.

Turpethum Cathapſaris.

T*Urbith* is hot in the third degree, is good to purge flegme, cholericke and thicke humours from the ſtomacke, breaſt, joints, and other remote parts, and helpeth the collicke and cold aches.

Mirabolanes.

M*Irabolani* (whereof there are five kinds, the Citrine, Indian, Bellericke, Chebule, and Emblicke) have peculiar vertues: ſome purge

choler, others melancholy, others flegme; but as they purge, ſo they binde againe, comforting and ſtrengthening the heart, ſtomacke, and liver, and therefore are fit purgers of the body in *dyſenterie* upon any occaſion: their doſe is ℥ ii.

Cambogiæ, or *Guttigambe*.

Cambogiæ is a purging medicine, newly found out in the Eaſt-Indies, and thence brought to us; it is not much unlike *Stibium* in working: it is already in uſe by divers reverend Phyſicians, amongſt which, Dr *Harvie* uſeth it in Saint *Bartholomews* Hoſpitall, and calleth it *Crocus purgans*. I find by my practice it purgeth well the head, and that it is good to open obſtructions, that it is alſo good againſt the yellow Jaundiſe: It openeth well the ſpleene and liver, and purgeth more downwards then *Stibium* doth: the doſe is 12. graines. The recited Doctor giveth it in pills: my ſelfe, for that I ſee it purgeth the head, have mixed it with pills for the head; and I ſo give it, and it worketh gently downward onely.

Caſsia fiſtula.

Caſsia fiſtula is hot and moiſt in the firſt degree, tempereth immoderate heat, purgeth gently cholericke humours, and is good for the reines and kidnies, driving forth gravell and the ſtone.

Crocus.

Crocus, or Saffron, is hot in the ſecond degree, and drie in the firſt, is good for the brain, quickeneth the ſenſes, cheereth the heart, cauſeth digeſtion, helpeth the diſeaſes of the breaſt, lungs, and liver, it mollifieth all hardneſſes, and ripeneth all tumours.

Opium.

Opium is cold and dry in the fourth degree, aſſwageth inward paines, cauſeth ſleep, ſtoppeth the flixe, and requireth care in the uſe thereof, for otherwiſe it is a deadly poyſon.

Radix Chyna.

Radix Chyna, Chyne-roots, prevaile much in the cure of *Lues venerea*, and are good for the giddineſſe of the head, taketh away the paine of the ſtomacke, and obſtructions, and are profitable for the dropſie, collicke, and gripings of the belly, moveth urine, cauſeth ſweat, and are helpfull againſt convulſions, the palſie, and paines of the joints, and a ſingular remedy againſt a conſumption.

Sarſaparilla.

Sarſaparilla is of a hot quality, cauſeth ſweat, eſpecially extinguiſheth the heat of venereous poyſon, and is good for the articular diſeaſes, ulcers,

ulcers, and flegmaticke humours, and principally it is good againſt the French pockes.

Saſſafras.

Saſſafras is of a hot and dry temperament in the ſecond degree, commended in taking away obſtructions, corroborating the inward parts, helping the Aſthmaticke and Nephretike, cleanſing the reines from gravell, diſcuſſing winde, good for womens diſeaſes; and againſt any kinde of fluxion, and in the *Morbus Gallicus* or French pocks, it is a good medicine.

Gnaiacum.

Lignum Gnaiacum doth exſiccate, attenuate, open, purge, move ſweat, reſiſteth contagion and infection, and doth wonderfully cure the *morbus Gallicus*, old ulcers, ſcabs, and ring-wormes; the beſt uſe thereof is by decoction in faire water.

Cortex Gnaiaci.

Cortex Gnaiaci hath the ſame vertue as the *Lignum Gnaiacum* hath, but exſiccateth much more.

Cortex Granatorum.

Cortex granatorum, ſeu malicorium, is aſtringent, ſtoppeth the laske, and bloudy fluxe, healeth the gums moiſt and weake, faſteneth the teeth looſe, ſtoppeth the bleeding of greene wounds, and helpeth the corruption of the ſtomacke, bowels, and the burſting or falling downe of the guts.

Liquiritia.

Liquiritia is in all qualities temperate, yet enclining more to heat, it is agreeable to the lungs and breaſt, rotteth flegme, moveth expectoration, cureth the cough, helpeth breathing, and is profitable for the reins, taking away the ſharpneſſe of urine, diſſolveth the ſtone, and healeth the ſores of the kidnies and bladder.

Hordeum.

Hordeum commune (in Engliſh ſaid to be Barley) is cold and dry in the firſt degree, digeſteth, ſofteneth, and ripeneth all hard ſwellings, is good for inflammations, excelleth againſt the ſoreneſſe of the throat, refrigerateth, comforteth, ſtrengtheneth, is abſterſive, and provoketh urine.

Hordeum Gallicum.

Hordeum Gallicum, more uſed inwardly then the *hordeum commune* by the Phyſicians in medicaments, is of the ſame nature and vertue as the other is.

Semen

Semen Aniſi.

Semen Aniſi or Aniſe-ſeed, is hot and dry in the third degree, doth diſcuſſe the windineſſe of the ſtomack and bowels, ſtoppeth the bloody flixe, laske of the belly, moveth urine and monethly termes, breaketh and bringeth away the ſtone, helpeth obſtructions of the liver, amendeth the breath, and is good for the falling ſickneſſe.

Semen fœniculi.

Semen fœniculi or fennell ſeed, is hot in the third degree, drie in the firſt, corroborateth the ſtomacke, openeth the obſtructions of the lungs, liver, and kidnies, and cauſeth abundance of milke in womens breaſts.

Semen Cari.

Semen Cari or Caraway ſeed, is of the ſame nature and vertue as *Semen Aniſi* aforeſaid.

Semen Cumini.

Semen Cumini or Cummen ſeed, is hot and dry in the third degree, attenuateth, digeſteth, reſolveth, diſcuſſeth winde, diſſipateth flegmaticke tumours, and is good againſt the collicke and timpanie.

Semen Petroſelini.

Semen Petroſelini or Parſley ſeed, is hot in the ſecond degree, and dry in the third, is given to them that have the ſtone or Jaundiſe, as alſo to provoke urine.

Semen Lini.

Semen Lini or Line ſeed, is hot in the firſt degree, temperate in moiſture and drineſſe, ſofteneth all cold tumours, ripeneth, breaketh impoſtumes, draweth out thornes ſticking in the body, expelleth winde, and gripings of the belly, and cleanſeth the fleſh from ſpots.

Semen Fenigræci.

Semen fenigræci or Fenigrece, is hot in the ſecond, and dry in the third degree, doth mollifie, diſcuſſe, and mundifie: helpeth cold, hard ſwellings, impoſtumes, and gout in the feet: waſteth & lenifieth the hardneſſe of the milt, mitigateth heat, is profitable for the matrix in women, and cleanſeth the skinne from many evils; as itch, ſcurfe, pimples, wheals, and the like.

Semen

Semen Anethi.

Semen Anethi or Dill-ſeeds, are hot and dry in the ſecond degree, provoke urine, prevaile againſt the gripings of the belly, and inflations thereof, take away the Hicket, increaſe milke, attenuate, reſolve, and digeſt humours.

Semen papaveris albi.

Semen papaveris albi or white Poppy ſeeds, are cold and dry in the fourth degree, provoke ſleepe, take away ſubtill humours, catarrhes, rheumes diſtilling from the brains upon the lungs, and help the cough.

Semen plantaginis.

Semen plantaginis or Plantane ſeeds, are cold and dry in the ſecond degree, ſtop the fluxe of the belly, and any fluxe of blood, are good alſo for catarrhes, old and new ulcers, either of the body or mouth.

Semina quatuor frigida majora.

THe foure cold ſeeds, named *Semina quatuor frigida majora* (*viz. Cucurbitæ, Cucumeris, Citrulli, Melonis*) are cold and moiſt in the ſecond degree. The firſt whereof extinguiſheth the fervour or heat of bloud, choler, and fevers. The two following are profitable to the ſtomacke, move urine, helpe the ulcers of the reines and bladder, extinguiſh thirſt and choler. The fourth and laſt hath all the vertues of the former.

Semina quatuor frigida minora.

Semina quatuor frigida minora or the foure cold ſeeds, (*viz. Lactucæ, Portulacæ, Cichorii, Endiviæ*) the firſt whereof is dry and cold in the third degree, refrigerateth the head, liver, ſpleene, reines, bladder, and limbs, prevaileth againſt the *Gonorrea*, and heat of Venery, moiſteneth, lenifieth, ſlaketh thirſt, and cauſeth ſleepe, *Ren. Wick.*

Saccharum.

Saccharum, Sugar is hot in the firſt degree, looſeth the belly, is convenient to the ſtomacke, doth cleanſe, digeſt, take away the aſperity or roughneſſe of the tongue, and ſiccity, thirſt, or drought in fevers, helpeth the reines and bladder, and is profitable for eyes dim of ſight.

Amygdalæ amaræ.

Amygdalæ amaræ or bitter Almonds, are hot in the firſt degree, dry in the ſecond, they are abſterſive more then ſweet ones: they doe

open

open and purge the lungs, liver, ſpleene, kidneyes, urinall paſſages, reines, and bowels, and are good againſt ſpitting of bloud.

Amygdalæ dulces.

Amygdalæ dulces or ſweet Almonds, are hot and moiſt in the firſt degree, doe extenuate, purge, and cleanſe the bowels, draw ſpittle from the breaſt and lungs, are good for the moiſt and dry ſtomacke, cleare the skin from ſpots, pimples, and lentiles, ſtop ſpitting of blood, and ingender choler.

Uvæ paſſæ.

Uvæ paſſæ ſeu Corinthiacæ, or Currants, are hot in the firſt degree, or rather of a temperate quality; and by a ſpeciall faculty they have, they prevaile againſt the vices of the breaſt and liver, move and purge the belly, ſtrengthen the ſtomacke, purge the head, lenifie and cleanſe the breaſt and lungs.

Amylum.

Amylum or white ſtarch, is moderately hot, levigateth the parts exaſperated, it is effectuall againſt the defluxions of humours into the eyes, againſt puſtles and hollow ulcers, it filleth with fleſh, ſtoppeth ſpitting of bloud, helpeth the roughneſſe and foreneſſe of the breaſt and throat, and eaſeth the cough: It is very good in the fluxes of the belly to be given in gliſters, againſt inflammations and excoriations in the intrails.

Cinamomum.

Cinamomum or Cinamon, is hot in the ſecond degree, warmeth, comforteth, concocteth, mollifieth, and wonderfully cheareth up the heart, and all the faculties of the body, as well animall, as vitall and naturall. It is very good againſt the fluxes of the belly.

Macis.

Macis or Mace, is hot and dry in the ſecond degree, ſtrengtheneth the ſtomacke, helpeth concoction, diſcuſſeth winde, and comforteth the heart.

Piper nigrum.

Piper nigrum or blacke pepper, is hot and dry in the third degree, expelleth winde, is good againſt all cold griefes of the breaſt and lungs, againſt poyſon, agues, and ſquinancy, diſſolveth and waſteth hard tumours, cauſeth digeſtion, and aromatizeth meats.

Cariophilli.

Cariophilli or Cloves, are hot and dry in the ſecond degree, and are Aromaticall, and beneficiall to the heart and braine, helpe the liver,

liver, and ſtomack, make the breath ſweet, are good for digeſtion, quicken the ſight, ſtirre up luſt, and take away obſtructions.

Nux Muſchata.

Nvx Muſchata, or Nutmegs are of the ſame complexion with *Macis:* helpeth the ſtoppings of the liver, milt, ſtomack, windineſſe of the belly, laske, weakneſſe of the kidnies, and ſtopping of the urine: comforteth the heart, and aromatizeth the ſtomack.

Zinziber.

Zinziber, or Ginger is hot in the third degree, helpeth concoction; ſtrengthneth a cold and weak ſtomacke, breaketh winde, and preventeth ſowre eructation.

Gummi Guaici.

Gvmmi Guaici, the gum of the *Guacum* hath the ſame vertue as the wood and barke aforeſaid called *Lignum Guaicum*, and drunk in powder is approved a good remedy in *Gonorræa.*

Opoponax.

Opoponax, is a gum hot in the third degree, and dry in the ſecond (if bitter, white within or yellow, fat, tender, eaſily diſſolving, and of a ſtrong ſmell, it is good) it doth mollifie, digeſt, attenuate or aſſwage, diſſipate or diſperſe winde, and is laxative.

Of Bdellium.

Bdellium doth warme and mollifie hard tumors in the throat, and diſcuſſeth *Hernia's* in their beginnings, provoketh urine, and is good againſt the cough.

Amoniacum.

Amoniacum (a gumme ſo called) is hot in the third degree, hath the force of mollifying ſo effectuall, that it diſſolveth *Tophoes* or hard ſtones growne in the fleſh, eaſily diſcuſſeth other puſtles, healeth the ſplene hardned, and, being given in drinke, taketh away many obſtructions, provoketh the monethly courſes and urine, driveth out the ſtone, diſſolveth the Kings evill, is very profitable for aches occaſioned by cold: that which is pure therof is formed like *Thus*, and in taſte like *Caſtoreum.*

Sagapenum.

S*Agapenum*, or *Serapinum* is hot in the third degree, dry in the ſecond, bringeth downe womens courſes, is profitable againſt the ſuffocation of the *Matrix*, reſolveth, attenuateth, diſſipateth, moveth, diſſolveth, and purgeth (though ſlowly) thicke flegme, and clammie humors: it is eſteemed excellent, if cleare, yellow in colour without, but white within, quicke in taſte, light in ſubſtance, and eaſie in diſſolving.

Galbanum.

G*Albanum* is hot in the ſecond degree: it is good if it be full of drops pure like frankincenſe, fat, not full of ſticks, ſtrong in ſmell, neither moiſt nor dry in ſubſtance: it extracteth, diſcuſſeth, bringeth away the courſes ſtopt, and the birth, takes away biles, hard kernels, and knots in the body, and helpeth the cough, ſhort breathing, convulſions, and ruptures.

Myrrha.

M*Yrrha*, choſen, fragill or brittle, light, ſpendent, of little drops, bitter, ſharpe, which ſmelleth ſweet, full of whitiſh veines being broken, is hot & dry in the ſecond degree: It openeth the wombe, procureth the courſes, bringeth forth ſpeedily the birth, and is good for the cough, ſtitch, fluxe, and bloudy flixe: it killeth wormes, amendeth the breath, cloſeth up wounds, confirmeth the teeth looſe, and ſtayeth the haire from ſhedding.

Maſticke.

M*Aſticke* ſweet in ſmell, white, ſpendent, brittle, old, and very dry, brought from the Iſle *Chio*, is hot in the ſecond degree: It helpeth concoction, ſtoppeth vomiting, confirmeth the power of reteining ſuſtenance, is abſterſive: it is profitable alſo to them that ſpit bloud, or that are troubled with a cough, it attracteth flegme from the braine, and is good for the breath.

Ladanum.

L*Adanum* is hot and dry in the ſecond degree, doth calefie, and mollifie: It opens the pores of the veines, keepeth the haire from falling off the head, ſtoppeth the laske, provokes urine: it is uſed ſeldome in the Surgeons Cheſt, except in making a gratefull odour, as when a fume of *Cinabrium* is to be prepared, for the cure of the pox.

Styrax.

S*Tyrax*, *Calamita & liquidus* are both hot in the ſecond degree, doe mollifie, concoct, cure the cough, diſtillations, hoarſeneſſe, poſe or ſtuffing of the head, matrix ſtopped, are good to procure the monethly courſes of women, cordiall, exhilarating, oppoſite to poyſon, and doe

doe discusse hard cold tumors, the knots of the sinewes, and the struma. The best commeth from *Cyprus*, *Sidon*, and *Pisidia*: the *Calamita Styrax* is yellow, fast, rosen-like in glistering fragments, continuing its smell, though old; and (being dissolved) of a hony-like colour, if commendable.

Belzoin.

Belzoin, called vulgarly *Benjamen*, is hot in the fourth degree, comforteth the heart, and all the faculties thereof, and hath the same power as *Styrax Calamita* aforesaid: the reddish, cleere, full of white drops like frankincense, and of a sweet smell as *Xiloaloes* burned, is chosen.

Tragacanthum.

Tragacanthum, a temperate hot gum, is good for the cough, roughnes of the Arterie or wind-pipe, hoarsnesse and defluxions, being taken with honey, or with Sugar, and is commended to be good for the eyes; also it is good to be swallowed downe whole, or eaten in powder against the fluxe.

Pix Burgundiæ, of some *Pix Græca and Colophonia.*

Colophonia or *Pix Græca*, is all one thing, and is a kind of Rosin of the Pine tree: it is hot and drie, cleansing and healing new wounds, mollifying hard tumours or swellings, and is very profitable against aches of the limbs, proceeding of a cold cause.

Pix.

Pix Navalis, or stone-pitch, is hot and drie in the second degree: it discusseth, conglutinateth, mollifieth, maturateth, suppleth the hardnesse of the matrix, and hard tumours, cureth ulcers, filleth them that are hollow up with good flesh, and helpeth cold aches.

Resina.

Resina is hot, mollifying, discussing and cleansing, and (being taken inwardly) is good against the cough, mendeth the breast, provoketh urine, concocteth crude matters, looseth the belly, expelleth the stone and gravell, and is excellent for the cure of green and fresh wounds.

Succinum.

Ambra citrina seu succinum is hot and dry, prevalent against the white fluxe of the wombe, fluxe of bloud, running of the kidneyes, distillations of the head, stopping of the matrix, monethly termes, difficulty of urine; being powdered and drunk, helpeth immoderate cough, and strengtheneth the intestines, & is good to be cast on coales to receive

the fume thereof, to comfort the Arſe-gut fallen, as alſo to fume a ſhip or houſe in time of infectious aires, as the plague, or when generall fluxes are to be feared.

Cera Citrina.

Cera citrina, or yellow wax, doth mollifie and heat, moyſtneth temperately: it is good to amend the milke in the nurſes breſts coagulated, it ſwageth paine, healeth wounds and ulcers, and hath commonly a place in all good unguents and plaſters: It is a good medicine to be drunke or eaten, and ſo ſwallowed downe for to cure the exulcerations of the ſtomack or intrailes in fluxes, where inward exulcerations are to be feared.

Mummia.

Mummia is aſtringent, helpeth fluxes of bloud, the bladder ulcerated, and the inward diſtempers of the yard; as alſo it provoketh urine, and is very good to be drunk in powder againſt great contuſions or coagulated bloud within the body.

Sperma Ceti.

Perma Ceti, or *Spuma maris*, or the ſpawne of the Whale, is ſowre in taſte, ſpungie and white in ſhew, unſavoury in ſmell, and weighty, having a ſharpe quality: It is of a cold faculty, cleanſeth, and digeſteth, and is ſometimes uſed of women to cleare the skin from ſpots and morphew: It is good alſo againſt bruiſes inwardly, taken with the former, namely, *Mummia*, and alſo outwardly warme, to annoint the parts contuſed therewith, and a *Paracelſus emplaſter*, or of *Pix Grecum* put thereon.

Sanguis Draconis.

Anguis Draconis is cold and drie in the firſt degree, it is of an aſtringent quality, it cloſeth up wounds, and confirmeth the weake parts, and ſtayeth the fluxes of outward wounds.

Lupines.

Vpines are hot and drie in the ſecond degree, digeſt, make ſubtill and cleanſe, kill wormes, drive away the freckles and ſpots like lentils in the face, aſſwage impoſtumations and ſwellings, the ſciatica paine; digeſt, conſume, and diſſolve *Morbum Regium*; ripen and open wens, botches, biles and peſtilentiall ſores.

Cantharides.

Antharides are uſed outwardly to cauſe a bliſter, and ſometimes inwardly to move urine; but ſo they are moſt dangerous, for they will bring

bring the disease *Priapismus* upon the Patient in a violent manner: I once knew it given, but it killed the party the third day.

Camphura.

Camphura or *Camphora* of a mixt quality, refrigerateth and calefieth, asswageth the paine of the head, inflammations of ulcers, wounds, cureth *Erysipelas* or St. *Anthonies* fire, is effectuall against the *Gonorræa*, the white flowers of women, bleeding of the nose: it is also good against venoms and poysons, it preserveth the body from putrefaction, and is commended for many other vertues, for brevity here omitted.

Spodium.

Spodium an astringent simple, is cordiall and good for fainting or swounding, inflammations of the stomack, trembling, melancholy, and other affections arising thence.

Sumach.

Vmach is wonderfully astringent, drie in the third degree, and cold in the second: it is good for the *Dysentery*, all bloudy fluxes, and womens fluxes, especially the white, and the Hemorrhoides, preserveth also ulcers from inflammations and exulceration.

Gallæ.

Allæ or *Galles* are cold in the second degree, and dry in the third; they cure fluxions of the gums, helpe the ulcerations of the mouth, stay the fluxes menstruall, and helpe the mother falling downe, make the haire blacke, consume proud flesh in wounds and ulcers, and induce a good healing to them.

Bolus verus.

Bolus Armenia vel Orientalis verus is very dry, and astringent: it is a good medicine in resisting the fluxes of bloud, helping the Catarrhe, Dysentery, and ulcers of the mouth, prevailing against pestilence, and all other like infections.

Bolus Communis.

Bolus communis, common Bole, hath the same effects as the former *Bolus*.

Stibium.

Antimonium, seu Stibium, used in due time and place, produceth very good effects, wrestling well with many kinds of strong diseases: commonly

commonly it is given in a Tertian, as alſo to the troubled with collicke paine, it purgeth upward and downeward forcibly, and cauſeth ſweat, it is a good medicine, given with carefull reſpect; but it killeth many by the violence thereof, unadviſedly adminiſtred : I lament to call to minde what fearefull accidents I have ſeene follow the uſe thereof; wherefore I adviſe the Surgeons mate to adminſter it with great care. The doſe (being five graines) is beſt taken by infuſion. It cureth fevers, is good againſt peſtilentiall fevers in their beginning: For it cureth ſuch at once taking 5 and in any other fevers it may be given, the body being ſtrong.

Sulphur.

SVlphur or Brimſtone is hot, concocting and reſolving, it profiteth the aſthmaticall, cough, collicke, griefe, and reſolution of the members: taketh away itch, breaking out of all the body, cureth tetters or ring-wormes, and the ſcurffe, and cureth rheumes and diſtillations: Seeke further hereof in *Sal*, *Sulphur* and *Mercury*.

Allumen.

A*Llumen*, or Allum, is aſtringent and yet purging, mendeth putrefied ulcers, drieth the moiſt, conſumeth proud ſuperfluous fleſh, taketh away the itch, and cureth the ſcab, and is very profitable in lotions for ulcerations of the mouth, throat, or elſe-where.

Vitriolum.

V*Itriolum ſeu Calcanthum*, or Coperas, is hot, aſtringent and drie, killeth the wormes of the belly, helpeth againſt poyſon, keepeth the fleſh moiſt and from putritude, conſumeth, contracteth and purgeth ulcers. Seeke more of this ſubject in the Treatiſe of Salt.

Vitriolum Album.

SEeke in the Treatiſe of Salt, in the end of *Vitriolum* for white Coperas.

Ceruſa.

C*Eruſa*, or *Venice ſeruſe*, refrigerateth, drieth, bindeth, extenuateth, gently repreſſeth excreſcences, and bringeth deepe wounds to a skar or ciccatrice, and is very good to bee mixed a ſmall quantity at once with *Plantane water*, againſt the heat and excoriations of the yard, I mean within the paſſage of the yard.

Plumbum Album.

P*Lumbum Album*, or white lead, is cold in the ſecond degree, it is an excellent remedy againſt inflammations, ſtiffe and hard ulcers, cankers and fluxions of the articles.

Minium

Minium.

PLumbago, or red lead, hath the force of binding, mollifying, filling up hollow ulcers with fleſh, bringing down proud fleſh, refrigerateth, cloſeth up wounds, and induceth a cicatrice.

Plumbum uſtum.

IS aſtringent, filleth up wounds, eateth away their excreſcences, ſtayeth the rheume of the eyes, bloud, and is profitable againſt the ulcers of the fundament, hemorrhoides, and their inflammations.

Lithargyrum.

LIthargyrus, or *Lithargyrum auri & argenti, & plumbi*, Litharge either of gold, ſilver, or leade, doe all refrigerate, binde, repreſſe, ſtop, fill up hollow places, cleanſe, induce a cicatrice or little ſcarre, and prevaile againſt the galling of the thighes. The litharge of gold, of ſilver and of leade, are all but one thing, though they are of ſeverall names, colour and differences of operations, by reaſon of their different preparations: they are as *Minium* is, all the ſonnes of *Saturne*, and are even lead and no other thing.

Æs Viride.

ÆS viride, or *verdigrece*, hath a ſharp quality, digeſting, attracting, extenuating, corroding and abſterſive, ſtoppeth fretting and ſpreading ſores, and eateth the callous hard fleſh of fiſtulaes, good in ulcers and Ophthalmies of the eyes. It is the ruſt either of copper or braſſe.

Tutia.

TUtia is a gentle drier, good againſt the diſtillations of the eyes, aſtringent, cooling, cleanſing, ſtopping, and filling up. It is the ſcum of braſſe in boiling.

Arſenicum.

WHite and yellow *Arſenicum*, called *Arſenicum album & Citrinum*, are enemies to the life of man or beaſt: Taken into the body, this minerall killeth any living creature, & is of a corroding quality, outwardly applied, it cauſeth a hard cruſted ſcab with vehement burning, eateth away ſuperfluous fleſh, and taketh away haires. It cureth the morphew, the skin annoynted with water of the infuſion thereof.

Argentum vivum.

ARgentum vivum doth corrode, killeth the itch and lice, woundeth the inteſtines, ſuppreſſeth urine, ſwelleth the body, hurts the ſtomacke

and

and belly, reſolveth, penetrateth and purgeth. But of this ſee more in the particular Treatiſe of *Mercury*.

Mercurius ſublimatus.

Mercurius ſublimatus, made of *Argentum vivum*, is excellent againſt the *Morbus Gallicus*. This medicine truly prepared, is a Laxative, a Diaphoretice, a Diauretice, a vomitive, and the beſt and worſt corraſive medicine that can be deviſed. *Quære* the Treatiſe of *Mercury*.

Mercurius Præcipitatus.

Mercurius Præcipitatus, is very good to futher digeſtion in ulcers evill diſpoſed, and to diſpoſe them to better healing, by cleanſing and digeſting them; and becauſe it is Mercury or Quick-ſilver, I have no time for it in this place, but muſt referre you to my Treatiſe of *Mercury*.

Cinabrium.

Cinnabaris is aſtringent, hot, extenuating, and hath the vertues or vices of *Mercurius* or *Argentum vivum*. It is of two kinds, either naturall which few know, or artificiall, and then it is compounded of Quick-ſilver and Brimſtone, and ſo is that we buy in the ſhops.

Flores Anthos.

Flores Anthos, or Roſemary flowers, are hot and drie in the ſecond degree, comfort the braine, heart and memory, and other ſenſes, amend the ſpeech, helpe digeſtion, mollifie, cleanſe, and cut away flegme.

Flores Balauſtiarum.

Flores Balauſtiarum, or flowers of Pomegranats, are cold and drie in the third degree, they are alſo aſtringent; cloſe up, and ſtop, they cure the bloudy flixe, bleeding of greene wounds, they are good in lotions for moiſt and weake gums, kill wormes, and faſten looſe teeth.

Roſæ rubræ.

Roſæ rubræ or Red-roſes are cold and drie in the firſt degree, refrigerate, and are aſtringent, they purge cholericke humors downward, open, ſtrengthen, and cleanſe the liver from obſtructions, comfort the head, ſtomack, and heart, helpe againſt conſumptions, and inflammations, cauſe ſleep, and ſtop ſpitting of bloud.

Flores chamomillæ.

Flores chamomillæ Camomile flowers are hot and drie in the firſt degree, provoke the monethly termes, and urine, are good againſt windineſſe

neſſe, the collicke, gravell, ſtone, aches, fevers proceeding from obſtructions, cure wearied parts, alſo they open, looſe, mollifie the hard-ſwollen and ſtopt parts of the intrails.

Flores Melliloti.

Flores Melliloti or flowers of Mellilote, are of a dry and hot quality, digeſt, conſume, diſſolve, and maturate, prevaile againſt all hot ſwellings, provoke urine, breake the ſtone, aſſwage the paine of the kidnies, bladder, and belly, ripen flegme, and cleare the eye-ſight.

Flores Centaurii.

Flores Centaurii or flowers of Centory, are of a hot and dry complexion in the ſecond degree, purge choler and groſſe humours downeward, open the obſtructions of the liver, kill wormes, cauſe the courſe of flowers, are good againſt the Jaundice, hardneſſe of the ſpleen, griefes of the ſinewes, cleare the eyes, heale wounds, and drive forth young fruit.

Flores Hyperici.

Flores Hyperici or flowers of Saint Johns wort, are hot and dry in the third degree, breake the ſtone, provoke urine, bring downe womens flowers, ſtop the laske, drive away fevers, are good for burnings, and cure old and fiſtulated ſores.

Flores Sambuci.

Flores Sambuci or flowers of Elders, are hot and dry in the third degree, open the belly, purge ſlimie flegme, and cholericke humours, and are good for hot ſwellings and tumours, and for the aſſwaging the paine of the gout.

Baccæ Juniperi.

Baccæ Juniperi or Juniper berries, are hot in the third degree, drie in the firſt, and aſtringent, are good for the ſtomack, cough, windineſſe, gripings of the belly, venemous bitings, infection, contagion of the aire, helpe the lungs, liver, kidnies, and bladder, and provoke urine.

Baccæ Lauri.

Baccæ Lauri or Bay berries, are hot and dry in the ſecond degree, they reſiſt poyſon, helpe deafneſſe, contracted and wearied parts, and the paine of the breaſt, cut up flegme, and take away the ſcurfe.

Farina Tritici.

F*Arina Tritici* or Wheat flower, is hot in the firſt degree, ſtoppeth ſpitting of bloud, diſtillations of ſubtill humours, helpeth the cough, roughneſſe of the ſharpe arterie, diſſolveth tumours, and cleanſeth the face from lentils and ſpots, appeaſeth hunger and thirſt, and is the principall naturall upholder of the life and health of man.

Farina Fabarum.

F*Arina fabarum* or Bean meal, is cold and moiſt, diſſolveth all ſwellings, is very good for ulcers, evills, and blaſtings of the genitories, and taketh away inflammations of womens paps.

Farina Hordei.

F*Arina Hordeacea* or Barly meale, is cold and dry in the firſt degree, diſſolveth hot and cold tumours, digeſteth, ſofteneth, and ripeneth hard ſwellings, ſtoppeth the laske, and humours falling into the joints, diſcuſſeth winde, is good againſt the ſcurfe and leproſie, and allaieth the inflammations of the Goutes.

Furfur Tritici.

F*Urfur* or Wheat bran, is good againſt the ſcurfe, itch, and ſpreading ſcab, diſſolveth the beginnings of hot ſwellings, doth ſlake and ſwage the hard ſwellings of womens breaſts, and the decoction thereof is ſingular good to cure the painefull exulcerations in the intrails, given by gliſters, as is mentioned in the cure of Dyſenteria.

Farina Volatilis.

F*Arina volatilis* or Mill duſt, is uſed in compoſitions to ſtay fluxes of bleeding wounds.

Roſemary.

ROſemary is hot and dry in the ſecond degree, cureth the Jaundice, and the *Regius morbus* or Kings evill, comforteth the braine, memory, and inward ſenſes, and reſtoreth the ſpeech loſt or broken.

Mentha.

M*Entha* or Mints, are hot and dry, doe profit the ſtomacke, appeaſe the hickok, ſtop vomiting, cure cholericke paſſions, griping paine of the belly, and the inordinate courſe of menſtruall iſſue, eaſe women in their travell of childe-bearing, ſoften breaſts ſwolne with milke, and keepe the milke from crudding therein.

Melilotus.

Mellilotus.

Mellilotus or Mellilote, is hot and aſtringent, it doth aſſwage and mollifie hot ſwellings of the eyes, matrix, fundament, and genitories, healeth the ſcurfe, and putrefied ulcers, diſſolveth apoſtumes of the ſtomacke, is good for the head-ache, provoketh urine, breaketh the ſtone, helpeth the paine of the kidnies, bladder, and belly, and taketh away the webbe and pearle of the eye.

Salvia.

Salvia or Sage is hot and dry in the third degree, and ſomewhat aſtringent, ſtoppeth the bleeding of wounds and bloudy flixe, openeth the ſtoppings of the liver, cureth the cough, breaketh the ſtone, provoketh urine, comforteth the heart, aſſwageth the head-ache, and paine in the ſide.

Thymum.

Thymum or Thyme, is hot and dry in the third degree, is good to cleanſe the breaſt, ripen flegme, and for the *Aſthma*, purgeth cholericke humours, corrupt bloud, bringeth to women their naturall termes, expelleth the ſecondine, provoketh urine, diſcuſſeth winde, extenuateth cold ſwellings, and helpeth the cure of the falling ſickneſſe.

Abſinthium.

Abſinthium or Wormewood is hot in the firſt degree, and dry in the third; it is bitter, ſharpe, and aſtringent, cleanſing, purging, and comforting, excellent to purge the ſtomacke, liver, and reines from cholericke humours, and to ſtay the weake ſtomacke from vomiting, cureth the Jaundice, reſiſteth peſtilent infection, helpeth the dropſie and ſplenetick, and killeth wormes in the body.

Carduus benedictus.

Carduus benedictus or the bleſſed Thiſtle is very bitter, and hot, comforteth the heart and vitall parts, moveth ſweat, reſiſteth poyſon, is of much uſe in peſtilent diſeaſes, mitigateth the paine of the reines and ſides, killeth the wormes of the belly, and prevaileth againſt bitings of Serpents.

Meliſſa.

Meliſſa or Balme, this herbe is hot in the ſecond, and dry in the firſt degree, doth bring down womens termes, helpeth againſt venome of ſcorpions, ſpiders, and dogges, comforteth the head, increaſeth the memory, and refreſheth the vitall faculties.

Sabina.

Sabina or Savin, is hot and dry in the third degree, provoketh urine with bloud, moveth the flowers, driveth forth the ſecondine, living and dead birth, cureth ulcers and eating ſores, and cleanſeth the skinne of lentils.

Radices Altheæ.

Radix altheæ or Hollihocke roots, are hot and dry in the firſt degree, they are profitable for the gravell, ſtone, bloudy flixe, tooth-ache, Sciatica, and cough: they cure new wounds, diſſolve cold tumours, wennes, hard kernels, impoſtumes, ſores of the mother, and chaps of the fundament, are good for cramps, burſtings, and trembling of the members.

Radices raphani ſylveſtris.

Radices Raphani ſylveſtris or Horſe-rediſh roots, are hot in the third degree, drie in the ſecond, are good for the ſtomacke eaten before meat, cauſe winde, and deſire to vomit; but after meat, digeſt, purge flegme, provoke urine, breake the ſtone, helpe the dropſie, liver, ſickneſſe, old cough, ſtopping of the reines, lithargie, collicke, and hardneſſe of the ſpleene, ſtay fretting, and feſtring ulcers, cauſe haire to grow, and cleanſe the face from ſpots.

Radices Pyrethri.

Radices pyrethri or Pellitory roots, are hot and dry in the third degree, good for old cold diſeaſes of the head & brain, falling ſickneſſe, and apoplexie, mitigate the tooth-ache chewed, bring forth much wateriſh flegme, helpe the reſolution of the ſinewes, and cauſe ſalivation or a fluxe of ſpitting.

Radices Angelicæ.

Radices angelicæ or Angelica roots, are hot and dry in the ſecond degree, they doe open, attenuate, digeſt, cut and diſcuſſe groſſe humours, they are adverſary to poyſon, helpe peſtilent diſeaſes, cauſe the flowers, comfort the heart and vitall powers.

Radices conſolidæ majoris.

Radix ſymphiti magni, ſeu Conſolidæ majoris, or Comfrey roots, are hot and dry in the ſecond degree, they doe helpe ſpitting of bloud, the breaſt and lungs, cure inward wounds and ruptures, are glutinative, mitigate hot tumours, and heale freſh wounds.

Calx viva.

Calx viva or unſlak'd lime, is hot and dry in the fourth degree, having a fiery, ſharpe, and burning force: it concocteth, mollifieth, diſſipateth, and cureth corrupt ſtinking ulcers, very hard to be cured, and bringeth them to a cicatrice or skarre.

Album Græcum.

Stercus caninum, ſeu Album Græcum, is hot and aſtringent, ſtaieth the laske, cureth the Squinancy, helpeth the Dyſenteria, and driveth away fevers that come by courſe, and is very good to ſtrew the fundament falſen withall, for it cureth the ſlipperineſſe thereof, and cauſeth it being gently put up to ſtay up; and being mixed and boyled with ſallet oyle to the thickneſſe of an unguent, is very good to cure the painfull Hemorrhoydes.

The Concluſion, touching what hath beene ſpoken of the vertues of Medicines, Simple or Compound, for the Surgeons Cheſt.

THe vertues, uſes, and doſes of all the precedent medicines here noted, have beene gathered from ſuch Authors as either were the Inventors of them, or formerly have taken them upon them; to whoſe workes I referre the Reader: which thing if any well diſpoſed Artiſt upon good ground ſhall queſtion, I doubt not to ſatisfie him. The Authors I have uſed herein, are theſe following,

Galenus.
Meſues.
Avicenna.
Tagaltius.
Vigo.
Paracelſus.
Joſephus Quercitanus.
Renodeus.
Johannes Jacobus weckerus.
Dodoneus.
Valerius Cordus.
Riolanus.
Rulandus.
Oſwoldus Crollius.
Dorneellius.

Auguſtanus,

Auguſtanus.
Montanus.
Matheolus.
Fernelius.
Dioſcorides.
Franciſcus Arceus.
Monardus.
Nicolaus Alexandrinus.
Serapius.

And ſome others, whoſe names ſometimes I have remembred and noted, ſometimes for haſte pretermitted: wherein I confeſſe I have done them hard meaſure, like him which in haſte ſleighteth his good friends; a fault too common.

OF

OF VVOUNDS.

A Wound is a recent ſolution of a continuity; or a diviſion of that which was knit together, without putrefaction; and is common as well to the ſoft and organick parts, as alſo to the harder: it may (though ſeldome it doth) ariſe from an internall cauſe) as the malice of bad humours; but more commonly it comes from an externall cauſe, namely, by the violence of ſome inſtrument. For which cauſe a wound is ſaid to differ in his denomination: for ſometimes it is called a thruſt or punction, which is made by ſtabbing with any thing ſharpe pointed, as a Dagger, Rapier, or the like: ſometimes it is named a Contuſion, when by a weighty thing offending (as timber) falling downe, or violently caſt downe (as a ſtone) the fleſh is bruiſed and broken: ſometimes alſo it hath the appellation of Inciſion, or an inciſed wound, for that it is done by an edged inſtrument, as a knife or ſword. And theſe wounds are either ſimple or compound: the ſimple are onely in the upper skin or fleſh, without detriment or loſſe of ſubſtance, which alſo have their ſeverall ſpecies or kindes, becauſe of their divers formes; ſome being greater or ſmaller, profound or ſuperficiall, long or little, ſtreight, round or crooked, of a facile cure, or difficile, or mortall. And for the ſounder judgment and better cure of all wounds, (which are either externall, or internall and penetrating) there are ſeverall ſignes (of ancient tradition) with much diligence to be had in remembrance, which daily practice alſo verifieth.

Definition of a wound.

The divers appellations of wounds.

The ſeverall differences of all externall wounds are diſcerned by ſight or handling.

Thoſe which are termed internall and penetrating wounds, are either in the head, breaſt, or inferiour venter, and are diſcovered likewiſe by ſight, by feeling, or by ſearching with an inſtrument into them.

The places of internall wounds.

The hurt or ruption of the membranes or braine is accompanied with ſneeſing, vomiting, bleeding at the noſe or eares, raving, and the like: but if the ſubſtance of the braine be hurt, thoſe ſignes are encreaſed, and a bilious or ſharpe vomiting is ſeene; alſo a fever, dull underſtanding, with alteration of favour and countenance doe enſue; ſtupidity alſo and dumbneſſe ſignifie the braine contuſed.

The breaſt is obſerved to be wounded and penetrated, when aire commeth forth of the wound, or when the perſon ſicke hath in his mouth a ſenſe of the things applied to his griefe.

It appeareth that the lungs are hurt, if the reſpiration be difficult, a ratling

a ratling ſound in breathing be heard, and the excrement which is voided from the mouth be ſpumous, pale, and crude.

The *Pericranium* hurt hath ſometimes ſudden and often ſwounding for a ſigne, though ſome nevertheleſſe having the *Pericranium* wounded or contuſed, have no evil ſymptomes extraordinary to other meane wounds of other parts.

The Heart wounded hath the refrigeration of all the parts, extinction of naturall heat, and death attending thereon.

If the great Veines and Arteries in the breaſt be offended, an immoderate fluxe of bloud, defection of vertue in all the faculties, a cold and an unſavoury ſweat doth enſue, and death within a few houres.

The ſolution of continuity in the ſinewie parts of the *Diaphragma*, cauſeth convulſion, difficile reſpiration, an acute fever, raving, and death: but if the fleſhy part onely be agrieved, it is capable of remedies, and ſuffereth not ſuch dangerous ſymptomes.

If the recurrent Nerves be wounded, there followeth loſſe of ſpeech, immediate motion and ſenſe alſo is ſuppreſſed, and that without recovery.

In the wounds of the Liver appeare vomiting, bloudy dejections, much paine, a continuall fever; and if they be deepe, fainting, reſolution of the ſpirits, cold ſweat and death follow.

The Spleene offended is as the Liver affected, ſave that the ſymptoms are in the right ſide, the other in the left.

The Ventricle is demonſtrated to be wounded by the voiding of *chylus*, frequent vomiting, ſwounding, fainting, and death.

When the excrements are retained in the belly, and iſſue out of the wound very unſavoury and putrefied, and not by the naturall place, it is plaine that the inteſtines are hurt.

The ſigne of the Reins or Kidnies wounded, is the ſuppreſſion of urine, which cauſeth a ſore paine in the groine and teſticles, with inflation or ſwelling even to death.

The accidents of the Bladder offended are one with the reines, unleſſe the ſinewie parts thereof be grieved, and then diſtention of the belly, piſſing of bloud, vomiting, voiding of urine at the wound, ſuppreſſion of the faculties, doting, and death follow.

When *Spinæ Medulla*, or the Marrow of the backe bone is hurt, there followeth the reſolution of the ſinewes (which hindereth the function of the ſenſe and motion) voluntary evacuation of excrements appeare, and for the moſt part death is the immediate concluſion.

The ſolution of a Veine is knowne by bloud of red colour and thicke ſubſtance.

The teſtimony of an Artery hurt, is bloud ſomewhat yellow, ſubtle, thin, hot, beating and leaping, or violently iſſuing, and as it were by jumps.

The Tendons, Membranes, and Ligaments wounded or inciſed, bring the ſame ſymptomes as the Nerves doe.

The Cure.

Wherein the cure of wounds in generall doth conſiſt.

THe Cure of wounds is either by the helpe of nature or medicine: if by nature, the ſtrife is at an end, the Artiſt may ſave a labour: if by

by medicine their cure consisteth both in the reduction of parts disjoyned and dislocated to union, and in cosolidation and true conglutination of them: therefore it shall be necessary to consider, that if any thing hinder consolidation it be removed: that reduction be rightly and skilfully wrought, lest the parts adjoyned fall into relaps, and that the substance of the part with his naturall temperament be conserved: and lastly, that the symptoms be prevented, and carefully cured as they arise.

The first intention in curing of wounds is to take away whatsoever is besides nature, as Iron, wood, leade, or ought else with fit instruments, and that without paine (if it may be) to the diseased, that consolidation may the better be effected. In wounds of the head, to take away the haire, or what else might seeme to hinder the good application of medicines to the griefe, is the first part. Strive also to set well the veines and nerves displaced, that the beauty and due office of the member be not diminished, and that it may conglutinate the easier, and being united, keepe them so by Ligature, suture, and other due, and artificiall meanes.

It is requisite also that the naturall temperament of the part be carefully preserved: and that is done by a certaine carefull regiment of the body, which is universall or particular.

The universall regiment, consisteth in purging medicines, as Potions, Glisters, a sober and frugall dyet, abstinence from wine, venerie, and all kinds of meats which may move or attenuate humours, and moderate use of good nourishing sustenance, all which helps the poore Sea-man is not capable of in long voyages.

The particular Regiment is in remedies which confirme and strengthen the naturall heat of the member debilitated, and which hinder and avert fluxion: such are *Unguentum Nutritum diapalma*, I meane *Diacalsithios* dissolved in *Oyle of Roses. Ceratum Refrigerans, Rosat. Messue. Ungu. de minio*, or the like.

The generall accidents most to bee feared that affect the wounded are *Haimorrea*, dolour, tumour, intemperature, a fever, faintnesse of the heart, convulsions, specially where a sinew is wounded.

Haimorrea or flux of bloud is stayed by medicaments astringent, fitted and applied with convenient suture or ligature; and sometimes by medicines causticke, either actuall or potentiall, touched in the Treatise of amputation or dismembring. *The cure of Haimorrea.*

A Tumour is an unnaturall increase, exceeding the naturall state in the body, and inducing an offence of the actions of the same, the cure whereof is touched elsewhere.

Intemperature is either over much heat or cold, & his remedie is by opposites; as namely, to too hot intemperature, apply a cold medicament, &c.

The intemperature of the Liver chiefly consisteth in oppilation or debilitie of the faculties thereof, & is helped chiefly by wholsome nutriment: the lamentable want whereof at Sea, is the cause of many the grievous obstructions, and other evill effects in Seamens bodies: so that oft-times a good Artist shall not be able to heale a meane excoriation.

The Accidents common to the wounded heart, as is said, are swounding, palpitation thereof, a hot burning fever, and many other.

Syncope is a ſolution of the ſpirits which forſake the heart, whoſe remedy is Cordialls, if God have appointed life.

A Feuer is a heat in the heart more then naturall, infuſed and diſperſed through the whole body, whoſe cure is by purging, bleeding, and good government.

A convulſion is a dangerous diſeaſe of the braine, which often-times is a fore-runner or a meſſenger of death.

The diſeaſes in the braine are either in the membranes, ſubſtance, or ventricles, and paſſages thereof; whoſe ſpecies and ſymptoms are many, and for the moſt part very dangerous, and of difficult cure. For if the ſubſtance of the braine bee offended, the functions thereof are impedited; whence proceedeth doting, melancholy, fooliſhneſſe, ſlothfulneſſe, Lithargie, frenzie, madneſſe, loſſe of memory, deadiſh ſleepe, giddineſſe, apoplexie, Paralyſis, and divers other like accidents formerly recited. And if the ventricles of the braine be wounded, then the motions and ſenſes thereof be grieved. Wherefore for the better cure of theſe wounds in the braine, deſiccation and cicatrization in due time is needfull, either by ſimple medicaments, (as *Spiritus vini, Bolus Armeniæ, Terra ſigillata, Lithargirum, Ceruſa, Tutia, Aduſt lead, Burnt paper, Allom water, Burnt Vitriol*) or by compound medicines, (as *Vng: deſiccans rub: Diapompholigos, & Diapalma.*)

Divers Accidents will have divers medicaments.

And as you ſee the accidents of the wounded are divers, ſo the remedies are not all alike: but ſome are generall, others more peculiar.

Thoſe that are only in the skin or fleſh have no difficile cure: for oft-times Nature with ſome eaſie remedy, or a Ligature only doth helpe them: but thoſe that are compound, offending many parts, neede a methodicall and convenient order of curation, which is divers, as is ſaid, according to the diverſity of the parts affected: for if contuſion or ruption be onely of the fleſh vnder the skin, there is required conſolidation by eaſie comfortation, and deſiccation; and no ſuppuration, which is effected onely by nouriſhing and preſerving the naturall heat or humidity of the member, as in other wounds.

But a contuſed wound, if it be great, requireth purging Gliſters, potions, or pils, phlebotomie, a wholſome dyet, perfect evacuation of the humour that commeth from the veynes, and ſuppuration of the contuſed & livid fleſh; which two laſt, are effected at the firſt by mean remedies; as oyle of roſes & mirtles, & ſometimes by a *Paracelſus* plaſter. It will deſire alſo ſuppurating medicines, fitting the greatnes and nature of the contuſion. It may be healed in the manner of an apoſtume; and if putrefaction be feared, the uſe of a good Lixivium, of cupping Glaſſes, and light ſcarification, is moſt neceſſary, that the humour about to putrefie may be evacuated, ſo ſhall the wound be better cured: but when the wound ſhall bee with loſſe of ſubſtance, then let thy endeavour be (by renovation and regeneration of the ſubſtance diminiſhed, or the intemperature) carefully by convenient digeſtive medicines to produce laudable quitture, and that the part affected be kept in his naturall temperament and faculty, for thereby it doth concoct and digeſt the matter flowing unto it; as alſo conſider diligently the excrements of the wounds, their ſubſtance, quality, and quantity,

Another note for the removing of that which is beſides nature in a wound.

quantity, these will shew thee what is superfluous, not naturall, and what hindereth the action and duty of nature, that it may be corrected and taken away by fit and convenient remedies. The medicaments incarnative, or for regeneration of flesh, areht e flower of Barley, Beanes, Lupines, or Orobus, Myrrhe, Aloes, with Aristolochia and Ireus, which are used either by themselves, or mixed with turpentine, *Mel Rosarum*, Syrupe of dry Roses, the yolke of an egge, or the like: also *Basilicum Unguentum Incarnativum*, are good incarnatives, the *Emplastrum gratia Dei*, made of juice of herbes, the Emplaster of Betony, dissolved with *Axungia porcina*: and follow the generall rule, Let the dry be more humected, and the humid more deficcated.

How to cure venemous wounds, which is either internall or external

The cure of wounds caused through the biting of venemous beasts (as mad dogges, scorpions, vipers, serpents, bees, fishes, waspes, hornets, swine, or other the like, is performed first by taking away that which is virulent, extracting, dissipating and consuming the poyson; which worke requireth internall as well as externall medicaments. The internall must be such as comfort and confirme the parts diseased (as Theriaca, Aurum vitæ, Confectio Alkermes, Bole Armenick, Conserve of Borage, Bugloss, Rosemary flowers, and the like) that so the virulent vapour may be abolished, which otherwise will infect the whole body. The extenall must also intend to extinguish the venemous vapour (and such are cupping-glasses and scarification, also all hot medicaments attracting, as Galbanum, Ammoniacum, Bdellium, Emplastrum Diachilon and Divinum, a Fomentation made with the herbe Dragon and Mugwort boiled in wine, Treakle, Garlicke, Onions, Fimus columbinus, and the like) which being done, the cure shall be after the manner of other wounds of the same magnitude: but in mine own practice, I heat Balme artificiall seething hot, and apply it for the first dressing, if I feare venome: and if I feare a Gangrene, I use Ægyptiacum as hot as may be, and over the wound I apply a Lixivium: slender and wholesome diet is also good, that may neither increase melancholy, nor heat much the bloud; and abstaine from bleeding, unlesse the noble parts be tainted, and then thou maist not safely purge, but raher sweat, which is best known when the animall faculties are offended.

The cure of wounds in the arteries, where it doth consist.

The wounds in the Veines and Arteries, bring with them commonly a fluxe of bloud, which to stay is a speciall businesse, consisting chiefly of astringent remedies, good application, suture, ligature of a veine or artery, if it may be done conveniently, and sometimes caustick medicaments; yea, incision, phlebotomy, the use of cupping glasses and ligature on the parts opposite; which three last are not alwayes to be presumed upon as safe courses, but upon need, if so be the veine or artery wounded be great: many things are of force put in practice, which otherwise seeme very harsh. The astringents simples to make compounds, are Bole Armenick, Terra sigillata, Thus, Aloes, Mastick, Myrrha, Sanguis Draconis, Flower of wheat, barley, mill-dust, and divers sorts: likewise Alume, Vitriol Precipitate, Mans bloud dryed, and sundry more, sometime to make a ligature upon the veine, wound, or artery, which is the binding of each end thereof, being first caught and holden with some fit instrument, and tied with a sure and strong silke thread: but oft-times it

happeneth that the ends of the veines or arteries wounded cannot bee found, in which caſe an actuall cauſtick remedy, or a potentiall cauſtick medicament, which induceth an esker, and ſtoppeth and covereth the orifice of the veine, is convenient: ſome alſo lay their thumb on it ſo long, untill it bee ſomewhat of its ſelfe ſtayed, and then bind it up, which is good in meane fluxes: I have often prevailed ſo. Now after that the flux of bloud is ſtayed, let the ſicke party bee contained in a place neither too hot nor too cold, and darke, ſpeaking little, that the cure may bee accompliſhed with more eaſe to the patient.

The cure of wounds in the nerues and ligaments.

The wounds made in the nerves, tendons and ligaments, whether by inciſion long or overthwart, a thruſt profound or ſuperficiall or by contuſion, great, little, or meane, require a good diet, ſuch as is, meat eaſie of digeſtion, refrigerating and cauſing little bloud; but the choice of ſuch things at ſea muſt be forborne: alſo that the body be kept open by Gliſters, mollifying and cleanſing, and (if need be) by potions eaſie and gentle, that the humours be not too much ſtirred to inflammation: bloud letting is ſometimes needfull, likewiſe anodine medicines which reſolve and extract corruption by the pores of the skin, ſtrengthen the part affected, and have an affinitie, or a certaine property to comfort the ſinewes: ſuch are Turpentine and the oyle thereof, oyle of Euphorbium, Rue, Wormes, Yolkes of Egges, Roſin, Pitch, as alſo a Cataplaſme made of bread crums, milke, and a little Saffron, the like made of Althea roots two ounces, Mallowes and Sorrell of each an handfull, flower of Beanes, Lupines and Orobus, of each two ounces and an half, red Roſe leaves powdered halfe an ounce, common honey two ounces, Chamomile oyle one ounce, all made into a cataplaſme according to Art. But if paine and inflammation be in ſuch wounds neere to an article or joynt, apply a cataplaſme made of bread crums, with the juyce of *Hyoſchyami*, or coole hearbes, or *Ung. nutritum*, *Populeon album*, or ſome of thoſe, that the burning heat may bee extinguiſhed; or of oatmeale ſodden in water with a little oyle: But if convulſion happen to a ſinew wounded or pricked, cut off all the ſinew, for if the nerve ſhall be wholly abſciſed, leſſer ſymptomes, through impotency and deprivation of action enſue, then if the middle or any part bee wounded: the cure in Art will not be ſo ſafe to ſow it up together, as ſome thinke, becauſe his adunation is uncertaine.

The cure of a nerue contuſed.

If a ſinew be contuſed without any wound, let it be corroborated by medicaments ſtrengthening and aſtringent. The cure of the wounds of the head is not alwaies to bee preſumed upon, though ſmall, nor yet deſpaired of, though great. Conſider therefore diligently whether the braine it ſelfe bee hurt or no; if the braine be offended, it is to bee known partly by the inflammation, dolour, apoſtumation, retraction, convulſion or deprivation of the functions of the ſenſes, and death alſo is ſuſpected preſently, or within a few dayes to follow: and if the palſie poſſeſſe the oppoſite part, it being ſound and whole, it is doubtfull, and the ſympathie of parts will cauſe oft-times an abſceſſe in the Liver and Meſſenterium, and an intemperature of the vitall faculty, with a continuall fever and death. It ſhall therefore be neceſſary for the

wiſe

wiſe Artiſt to know the manner of the hurt, that he may wiſely prognoſticate the danger: for if onely the *Pericranium* be hurt by inciſion, without any contuſion, and far from the commiſſures or ſeames, it is not dangerous at all to be cured, and the cure to be wrought, is as in other wounds: but if it bee much wounded by punction or contuſion, & ſymptomes ariſe with a tumour in the head, then dilatation is needfull, that the contuſed bloud which is betweene the *Cranium* and the *Pericranium* may be extracted; and let it be quickly done, ſo ſhall the ſymptomes ceaſe and the cure will bee eaſie: but and if the offence of the *Pericranium* be in the ſuture or ſeame, it is more dangerous, becauſe the braine doth ſympathize with it. If the Fibres paſſing through the ſutures of the *Pericranium* from *Dura mater* be wounded or contuſed, it exceeds the other in danger; therfore to reſiſt putrefaction, let the wound be dilated: and if no fracture of the bone be (the wound appearing onely in the fleſh, without any offence of the *Pericranium*) the cure ſhall be as in other wounds. But if a fracture in *Cranium* chance, there is required great care, namely, let the forme and magnitude thereof be well conſidered, obſerving alſo diligently what bone it is, and in what part it is hurt, and whether the fragments are great, or little, or ſharp, pricking the Membranes or not, which, of what ſort ſoever they be, they are diligently to be drawne out with as much eaſe as may be to the Patient; and if they cannot, being broader within then without, let the Trapan be carefully uſed; the uſe whereof is touched in the booke of inſtruments, under the name Trapan. Sometimes there is onely a depreſſion, and then a Levatorie inſtrument will excuſe the uſe of a Trapan, and take away the ſpils & fragments which are upon the membrane, & the bloud alſo which ſhall iſſue out upon the ſame may by a ſpunge be taken away: keep it likewiſe from cold, and of a temperate heat, and the place hurt being well cleanſed, poure *melroſarum* warme into the wound, or two parts of Honey, and one part of oyle or ſyrupe of drie Roſes, or common Honey with Turpentine, with the yolke of an egge, which are remedies mundifying, and gratefull to the Membranes, and ought to be applyed warme; but above all others the linament of *Arceus* is the chiefeſt Balſame for wounds in the head. The generall remedies for wounds of the head muſt neither overmuch refrigerate, nor overmuch calefie, but be of a moderate or temperate calour. The generall manner to proceed to the cure of wounds in the head, is as followeth.

Speciall obſervation if the bones of the head be broken.

First let the haire be ſhaven away; the next, if any looſe bones be, take them out; the next to be done, is, if a depreſſion of *Cranium* be, ſtrive with the elevatorie to raiſe it; the next is, to ſtay the flux of bloud if any be, leaving of the griefe undreſſed for two dayes, that the veines may knit; then inquire of the Patient if he have the benefit of nature, if not, procure him one, not many ſtooles, and onely ſee he have naturall ſtools once a day, or in two dayes, not by potion nor pills, but rather by gliſter or ſuppoſitorie. At the ſecond opening of the wound, if occaſion ſerve, uſe the Trapan, or take out any ſpils or bones that ſeeme to offend, if they be very looſe, not elſe; force nothing out of the wound, except the Patient his great neceſſitie force thee thereunto; for nature is kind,

Inſtructions very needfull in the head wounded the ſecond time opened.

and ready to do wondrous helpe in the eure of the head. For the ſecond application, have ready of the noble linament of *Arceus*, never ſufficiently commended, and being ſomewhat hotter then the partie would willingly beare it, annoint the wound therewith in each place, with a little ſoft lint on a Probes end, leaving the ſaid lint therein, & with plegents of lint drie fill up the orifice, & after annointing about the edges of the griefe, apply a plaſter, either of *Emplaſt. Betonicæ, Stipticum Paracelſi, Minium, Mellilote*, or *Diacalſitheos:* In want of *Arceus linament* you may take *oleum roſarum*, and *mel roſarum*, which are not much inferiour to the former, being warm applyed; Some uſe therewith alſo a digeſtive of Turpentine, & the yolk of an egge well mixed, *ana* a like quantitie, wherewith they ſpread plegents, and then dip them in the warme *mel* and oyle mentioned, and ſo apply them, which is very good, and the moſt ancient practice in curing wounds of the head.

In want of oyle of Roſes oyle of Olive will do well, and common honey for *mel roſarum*, though not ſo well: and if cauſe be, ſome Artiſts mix ſpirit of wine, or good *aqua vitæ* with the former medicine, and it comforteth well the braine, and very much furthereth good and ſpeedy healing: good bowlſtring, and ligature doe much availe to the cure of the head: alſo it is good to keepe the party lying and in a darke place, till the greateſt danger of accidents bee paſt, remembring withall that the overſtrict keeping him in, may alſo be very offenſive to the ſicke.

Let good diet ſtrictly bee obſerved, if occaſion be, and the uſe of Gliſters likewiſe upon good reaſons is alſo to be approved; and it is good to open the Cephalike vaine if the braine have been long uncovered, or yeeld a ſpumous white and thicke excrement, which ſeemes to bee a portion of the ſubſtance of the braine: likewiſe to purge the body, mundifie the wound, and corroborate the braine with Cordials, and fomentations fitting, the chiefeſt is good wine and hony to foment with; but I ſeldome uſe any fomentations my ſelfe, having cured divers fractures in the *Cranium* without any fomentations at all; for the uſe of them at Sea, I know is troubleſome and dangerous, except great cauſe.

Diligent obſervation of the accidents of a wound required.

Be carefull alſo to obſerve the danger of the wound according to the accidents thereof; for if it be little and ſuperficiall, it is cured as an other wound, but if it pierce the ſecond table, it muſt not be paſſed lightly over; for if you bee occaſioned to uſe the Trapan, it is to be applyed the third, fourth, or fifth day after the hurt at the fartheſt; but the choice of the day is not materiall, as ſome ſuppoſe, where there is apparant neceſſity, except on the day of the full of the Moone, and then there is danger more then at other times, but neceſſity hath no rules.

The cure of wounds in the face, would if it were poſſible be done without a cicatrice, but that cannot bee performed without a drie ſtitch, with alſo a moſt artificiall, and convenient binding the lips of the wound together, with alſo a ſure naturall balme: wherefore I will not ſtand to teach the drie ſtitch here, for it is not proper at Sea, it fits the land better. In the worke of ſuture or ſtitching, take heed that the skin and fleſh be not overthicke which you take up with your needle, and let not your ſtitches bee too cloſe. A true ligature of the face is ſomewhat difficult

cult to be performed, becauſe of the cavities thereof, which are to bee filled with linnen clothes, or tow, or lint, the better to keepe the ligature to the wound.

The Noſe and Eare wounded require good and carefull ligature, and Emplaſters that will cleave faſt to the griefe. *Where ligature is needfull.*

The wounds of the eyes are dangerous by reaſon of their affinity, as well with the *Pericranium* as the other Membranes of the braine, ſo that they are for the moſt part full of bitter paine, cauſing loſſe of ſight: wherefore by Gliſters, bloud letting, cupping Glaſſes, Purgations, and ſober diet, the accidents are to be ſtayed. The medicines outwardly which I have uſed ever with good ſucceſſe, are the artificiall Balme with fine lint warm applyed on the eyelids, and a *Paracelſus* plaſter over that, and therewith I have done great cures in wounds of the eyes; but I never dropt any medicine into the eye it ſelfe,

The wounds of the neck are healed as other are, unleſſe the hinder-part thereof be hurt, which hath like ſymptomes to the braine.

If the ſhoulder be wounded, it is cured as other wounds, except the wound bee in the joint-bone, ligaments, and nerves, which needeth a ſuture; and if it be overthwart, a convenient Faſcia, or Ligature for the ſuſtentation of the arme is to be carefully provided, for without good ligature thoſe wounds doe not well: For ought elſe their cures are common to other wounds.

The cures of the arme are ſometimes dangerous, chiefly if the bone, and ligaments, or the muſcles with veines and nerves be inciſed thwart; let the remedies therefore be ſuch, as are proper and agreeable to the nerves; as namely, the artificiall Balme very warme applyed, and a *Paracelſus* plaſter with ligature fitting.

But if the hands be wounded, and the tendous ligaments, and ſinewie parts thereof offended, divers abſceſſes in many places, with Inflammations appeare ſometimes, and exceeding ſore: Sometimes paines ariſe, which may occaſion the uſe of purgations, bloud-letting, anodine medicaments, and a ſpare wholſome diet. In theſe cures the artificiall bearing up of the arme is a chiefe part of the cure thereof, and keeping the hand in one even poſition.

The wounds of the Thorax externall, ſuffer to be covered with fleſh, and to be healed as other wounds; but wounds that penetrate the inward parts are dangerous; namely, if any great quantitie of bloud lie in the capacitie of the Thorax, which cannot bee evacuated by the wound; but if it can be evacuated there is hope, otherwiſe it is diſperate. Alſo, if the bloud may be extracted, and no internall part ſeeme hurt, heale up the wound, and be carefull the aire get not into it; but if the externall orifice be little, and the internall great, and wide, the Membrane being burſt, and a rib uncovered, as it oft-times falleth out, it is to be judged incurable, and a Fiſtula will remaine there continually. And if the former part of the Thorax be ſtrook thorow even to the latter, but not thorow both, if the wound be little and ſlender there is ſome hope of cure, otherwiſe not, but it is commonly paſt cure, yet neglect not thy duty, nor deſpaire, for God is mercifull: Let thy cure be attempted with good

diet,

diet, as is ſaid, clyſters, bleeding, ſyrupe of Violets, and Hyſope and the like, *unguentum potabile* drunke faſting ℥ ii. or 3. for a doſe, and ſuch locall Medicines as are mentioned; but if paine or the like accident ſhall be in any part of the Thorax, uſe anodine medicaments as well as ſanative, leſt paine hinder reſt, and overthrow all.

The outward wounds of the belly doe nothing differ from the generall method of other wounds, touching locall Medicines, onely in ſtitching they differ much, but the inward differ, as the parts offended may be divers; as namely, when the *Omentum* commeth out, with all haſt put it into its place leſt it corrupt, and the aire alter it: if it ſhall bee put in cold, it will putrefie, and bring grievous Symptomes; it were better to make a ligature about ſo much as is out, and cut it off, being carefull of the guts: If the inteſtines paſſe out by a wound, the wound being very little they will hardly be reduced, unleſſe they be pricked, for they will ſwell with winde: but if the ſubſtance of a gut be wounded, ſow it together and conſolidate it; and if the liver, ſplene, ſtomacke, kidneis, or bladder be wounded, let nature worke its part, for there is ſmall hope by Art to prevaile.

The wounds of the *Scrotum* are cured as other wounds of the ſinewie parts.

The cure of the *Hyppe* wounded agreeth with that of the ſhoulder afore mentioned.

The *Knee* wounds alſo are cured as other ſinewie parts wounded are. The ancle, foot, and ſole thereof wounded are hard of cure, becauſe there are many bones, ligaments, tendons, and ſinewie parts among them: they are alſo placed in the loweſt part of the body, and therefore are ſubject to defluction of humours.

Of Gunſhot Wounds.

Wounds by Gunſhot are compound.

WOunds made by Gunſhot are alwaies compound, never ſimple, and are the more difficult of cure by reaſon of a certaine humour without the veynes found neere them, inclining to corruption; the quality thereof being changed by the ſudden violence of the blow. The compoſition of which wounds for the moſt part conſiſts of loſſe of ſubſtance, contuſion, fraction of many ſinewie fibres, veynes, arteries, membranes and bones; yea, often ſhivered into divers peeces, being in form different, as ſome round, narrow, and wide, and in figure *cuniculous*, *triangular*, *quadrangular*, *fiſtulous*, *&c.* at the firſt bringing with them no *Hemorrea* or fluxe of bloud, although the veines be broken and open, the blood returning backe through the fearefull violence of the ſtroke.

The divers form of wounds by Gunſhot.

Dilatation if cauſe require.

The firſt curative intention of theſe wounds is dilatation, whereby the enemie to nature may by an open orifice be expelled. The ſymptomes of ſuch wounds are *Hemorrea*, furtive, or a ſtealing fluxe of bloud trickling out by little and little, *Gangrene* unawares aſſaulting the part: alſo apoſtumation, dolour, and the like. Wherefore as an entrance to the cure, let an univerſall regiment of the ſicke bee carefully obſerved,

ved; namely, that as much as is possible hee use wholsome aliments, such as resist putrefaction (as sower and tart things) and which are gratefull to the vitall faculties: and when he eateth, let it be sparing and often: let him drink very little wine. If you feare venemous vapours may be collected, give him of good *Mithridate*, *Venice Treakell* 3 ſs. or *Diatesseron* 3 ſs. These rules at Sea are not so well to be observed as at Land; wherefore let the Sea-Surgeon therein doe his best. let his ordinary drink be *Ptisans*, or *Barley water*: conceale from him the magnitude of his wound, keepe him loose onely with Glisters, or suppositories, let him bloud if need be, and yet but a little, lest poyson or venome setled in the outward parts, be thereby drawne in backe into the more noble parts: and abstaine to give him remedies calefying the humour, especially at the first.

In these wounds often appeare exudations of clammie humours, supposed by some to proceed from membrans, and sinowie Ligaments bruised and broken, being changed from sound to unnaturall and vicious: those humours are to be evacuated, or their dangers prevented by good alterative remedies; namely, absterſive medicines, as a good *Lixivium*, or by *suppurative*, *mandificative*, and *desiccative* things having faculty of confirming and strengthening the parts affected. Therefore the feare of a *Gangrene* being taken away, suppuration must be intended in the flesh contused, but if in the parts contused there be a vicious humour, and the flesh begin do putrefie, in such cases it is covenient to helpe suppuration with all speed.

But first of all let a good *Alexipharmacon* or *Preservative* against poyson bee given the sicke, if you see cause; namely, a little *Venice Treakell* or other *Treakell* on the point of a knife, if it be right and good: but if you do feare the vertue thereof to be doubtfull, as often it is, give it dissolved in *spirit of wine*, *Cinamon water*, or *good aquavitæ*, whereunto adde certain drops of *Oyle of Vitriole*, for it exceedingly resisteth putrefaction. You may for a need give *Mithridate*, *Aurum vite* 8. gr. or *Diatesseron* alone: or if the party be of a cold constitution, then give him *Dia trion piperion*, or good *Rosa solis* a little. And if hee be strong, after he is dressed, you may lay him to bed to sweat, and procure him thereto by a dose of a *Diaphoreticon* given in *Treakel* or *Mithridate*, regarding, as is said, that the sicke have the benefit of a naturall open body; yet not many laxative stooles for feare of danger. Let care also bee had of his dyet, as is said, so much as the time and place can permit. Which effected, in the next place consider by the view of the wound, what manner of local medicaments are most fit. And for the first intention of curing, it were fit the Surgeon at Sea were never wanting of a good *Lixivium*, to foment the parts percussed or contused; let it be such a *Lixivium* as I have described in the cure of *Fractures*, but somewhat sharper; to which for brevitie I referre the Surgeons Mate. Also have ready *Ung. Ægyptiacum*, and the *Caustick stone*, if need be: also the *Artificiall Balme*, *Oyle of Vitriole*, a good Restrictive powder, good Ligatures of all sorts, stitching needles ready, with all other fit instruments not farre off if occasion should bee, as tents, splints, dorsels, spunges, clowts, rollers.

rollers, tape, tow, lint, plaſters ready ſpread, and the like, that when an occaſion happeneth, he might be ready to performe his duty.

The moſt notable differences I have ever obſerved betwixt a wound made with Gunſhot, and another contuſed wound, is onely a furtive Hemorrage, and a dangerous diſpoſition to a Gangrene; which two accidents warily prevented, the cures of ſuch wounds differ nothing from ordinary wounds contuſed.

In the curing of wounds of the head, as is ſaid, *Arceus Linament* is the chiefeſt Balme: the next thereunto in common uſe, is *Mel Roſarum & Oleum Roſarum* mixed, then Honey and *Mel* mixed with good *Sp. vini*, if the party bee not too hot of conſtitution. *Unguentum Baſilicon* is a good healing Balm; alſo the *unguentum Incarnativum*, or *Unguentum aureum*, is generally a good healing Balm; you ſhall find it no leſſe. *Ung. Necotianum* is alſo a good healer of new wounds; but the beſt is the *Artificiall balme*. For dangerous wounds, *Oyle* of *Terebinthine* is very good; but *Venice Terbinthine* alone is much better; and common *Terbinthine* is not to be deſpiſed; and no more is the ordinary *Digeſtive of Terbinthine* and the yolke of an egge, of each a like quantity well mixed together.

And yet I would not doubt at all without all theſe recited medicines, to finde ſufficient healing medicines in the Surgeons Cheſt for double the occaſion that can bee imagined, which if time would permit me, I would write of.

Directions how to prevent putrefaction to great wounds incident.

And whereas putrefaction, as is mentioned, alwayes attendeth great wounds made with Gunſhot, all care in time is to be had to prevent the ſame. Let therefore your firſt locall application, if you feare purrefaction be *Vnguentum Egyptiacum* mixed with Wine or *Sp Vini*, or alone; being alſo very hot injected into the wound, or applied on lint. And if you feare it will require yet more exſiccation or cauterization, adde ſome burnt *Vitriole*, and foment ſomewhat the outward parts of the grief with a hot *Lixivium*, and apply a hot ſtupe wet in the *Lixivium*, and wrung out round about the member: but if the outward parts about the wound be altered in colour, or grow either ſtinking or inſenſible, make ſcarification and foment well with ſtrong hot *Lixivium*, and inject thereof into the wound very hot; and after ſuch fomentation, ſcarification, and injection uſed, as is ſaid, then if you yet ſee cauſe, you may uſe the former mentioned *Egyptiacum* with a hot ſtupe, and remove not that dreſſing without extraordinary cauſe, I meane the *Egyptiacum*, in leſſe then 48. houres, but rather if you have cauſed a good *Esker*. The next dreſſing after the *Esker* procured by the former dreſſing, it is likely you ſhall finde digeſtion though imperfect, namely durty and foule, and the wound will alſo be very tender and ſenſible, and ſubject to alteration by the ayre, if care be not had. Wherefore all things for your next intention of application being firſt ready, ere the wound be opened make a very ſhort dreſsing, and of as gentle medicines as may be. I have uſed an *Arceus Linament* warme, and with ſoft lint applied, and the edges or parts neere the wound anointed therewith, and gently filled the wound with lint, then over that a *Paracelſus* plaſter, & moreover a large hot ſtupe wet in a good *Lixivium*, and wrung out, with alſo convenient, ſoft, and

warme

warme Ligature, which is a great help to healing.

The third dreſſing, I would leave *Arceus Linament*, and betake me to the *Artificiall Balme*; which *Balme* I would apply warme, annoynting the parts about therewith; applying alſo thereto ſome good emollent, diſcuſſing, and anodine plaſter; as namely, *Paracelſus plaſter* I hold chiefe; next that I hold *Emp. Betonica* deſcribed by *Arceus*; then *Diacalſithios*, *Minium*, *Gratia Dei*, or *Mellilote*, any of which, as thy diſcretion and ſtore affords, is proper. The reſt of the Cure I referre to bee proceeded in with balme and plaſters, as is ſaid, in ordinary forme: and if any looſe bones bee, remove them; onely force none out before their time without great cauſe: if no bones be imagined, ſtrive not to keepe the wound open, neither keepe any hard tents within the wound open. Many by a cuſtome keep tents to the bottome of the griefe ſo long, till they make the diſeaſe incurable: you need not bee too vigilant in keeping new wounds too long open; for the feare of putrefaction being once put away, and digeſtion procured, and no bones to come out, the ſooner you can heale, the ſafer. Many Surgeons alſo have a groſſe cuſtome of arming tents, as they terme it, with precipitated *Mercurie*, or other the like Cauſticke medicines, and put them into wounds to mundifie, and alſo the better to digeſt them, as they imagine; but I may boldly affirme, that (as is ſaid) if neither feare of a *Gangrene* be, neither broken bones to be taken out, there is no cauſe of any Cauſtick medicines to be applyed for the curing of a new wound at no time. And I finde by practice plaine, that Cauſticke medicaments within ulcers or fiſtula'es have no other uſe but to take away a callous ſubſtance commonly in them, to alter the vicionſneſſe of the humour, and diſpoſe the griefe to a good healing; which healing after followeth chiefly by the benefit of nature, together with gentle and ſanative applications, for (*ſublata cauſa tollitur effectus*) the cauſe removed, the effect ceaſeth, and ſo of wounds.

An admonition to Surgeons.

It is a ſhamefull errour of many fooliſh Empericks ſtill to be too buſie with Cauſtick medicines: for how apparent is it that thereby they lame many, through ignorance? They will not ſee a wound incarne and red, and good fleſh to grow, but ſtraight they ſlander it of pride, and call it proud fleſh, like their owne, and then muſt at the faireſt *Precipitate*, or *Vitriole burnt* goe to worke; yea, though the Patient be lame for it, or at the leaſt the griefe put backe againe. Truely the abuſe of good Cauſticke medicines bringeth much ſlander to the Arte of Surgery. In the cure of *Ulcers and Fiſtulaes*, and elſe where, I have noted downe my opinion of the true uſe of Cauſtick medicines, to which I refer the Reader.

If therefore wounds happen with Gunſhot, which give no cauſe to feare a *Gangrene*, then begin the firſt dreſſing with *Balme Artificiall* very hot applyed, the next dreſſing reaſonable hot, and ſo to the end of the cure, uſing *Emplaſters* and *Ligatures* convenient.

Of Burnings.

Of burning by Gunpowder. Neceſſary Rules for the Cure.

BUrning by Gun-powder (which wanteth no grievous accidents) often-times is incident in Armes to Souldiers and others; therefore be ready at all times with remedies fit and effectuall to aſſwage them. And beginning thy worke with *Lotions*, as namely, either a fomentation made with oyle and water, or with a decoction of the ſeeds of *Quinces*, or of *Mallowes*, *March-mallowes*, *Violets*, and a little *Purſlaine ſeed*; theſe and the like take away all the powder that ſticketh in the fleſh, for it hindereth the cure. And to aſſwage both the dolour thereof, and the vicious humours, *Mel Saponis* is an approved remedy, for it taketh the fire out: And to make it more eaſie for ſuppuration, uſe *Anodine Medicaments* (as *Ceratum refrigerans Galeni*, *Populeon* mixt with a third part of *Unguentum album*, or a third part of *Triapharmacon* and *Oyle of Roſes*, or *Oyle of Eggs*, or of *Roſes* mixt with the white of an egge, *Axungia porcina* waſhed in the juyce of *Plantane*, or the juyce of *Solanum*, or in water; alſo the fat of ruſtie bacon waſhed in Roſe-water, or the like.) Alſo a decoction of wine vineger lib.i. *Litharge* in powder ℥s, and gently fomenting the part therewith, taketh away all paines. But to perfect the cure, let good ſanative medicines be applied; as the *Unguentum contra ignem*, ſet downe in the Cheſt, whoſe compoſition ſhall be manifeſt hereafter.

Obſerve alſo, if occaſion be, that bloud letting be uſed, which is very requiſite to avert fluxions, and to avoide putrefactions of humours. But abſtaine from purging potions, and the like at the firſt. With theſe recited helps, adminiſtred in their due time and place, with alſo a good dyet, the Surgeons Mate ſhall performe much in ſhort time, to the praiſe of the Almighty and his owne comfort.

THE

The Cure of Apoſtumes.

Firſt what an Apoſtume is.

AN Apoſtume is a tumour compoſed of three kindes of diſeaſes, as *Avicen* affirmeth, namely, Intemperature, Incommoderation, and Solution of continuitie, all gathered into one magnitude: and *Tagaltius* in his inſtitutions affirmeth, every tumour againſt nature is an Apoſtume: The differences of tumours are many, and are by many learned writers handled at large, of which my leaſure will not permit me now to write. *The Definition of an Apoſtume.*

The times of Apoſtumes are alſo at large handled learnedly by Mr. *Gale*, *Iohannes de Vigo*, *Ambroſe a Paris*, and divers other good Writers, and are noted to be in number foure, as namely, Beginning, Augmentation, State and Declination. *The times of an Apoſtume are foure.*

The beginning of an Apoſtume is noted to be the firſt collection of humors, extraordinarily intruding into any one part of the body, at which time with the Chirurgions care, the proceeding of the diſeaſe is eaſily hindered, according to that old Poeticall verſe, *Principiis obſta, &c.* The next time of an Apoſtume is the Augmentation, when the diſeaſe hath taken root, and is not ſo well to be put backe, neither is it alwayes neceſſary nor ſafe to attempt it: for it may be nature hath determined to ſend it out, and this ſecond degree or time of an Apoſtume is ſometimes knowne by heate, and pulſation increaſeth a diſtemper generally of the body, and an inclining to a feaver, eſpecially if the Apoſtume be hot, or have malignitie therein: but the augmentation of colde Apoſtumes have often no other ſignes notable: but onely an appearance of increaſe, without any other diſtemper of the body for a long time together. *What the beginning of an Apoſtume is.* *A good rule.*

The third time or degree, which is the ſtate or ripeneſſe of the griefe is well to be knowne divers wayes, as namely, the Apoſtume by this time is come to perfect maturitie, and the paine is either wholly or partly aſſwaged, and the matter being neere the skin, each childe in Chirurgery may judge what is next in Art to follow, by the bearing out and diſcolouring of the skin, for uſually it is diſcoloured blacker, or is very ſoft, and if the Apoſtume lie deep by feeling, you ſhall alſo ſenſibly perceive whether there be perfection of maturation or no, alſo by depreſſing the cutis a little with your finger. *What the ſtate of an Apoſtume is, and the ſignes thereof.*

Marke alſo out of the words of the Ancients, to know when an Apoſtume will proceed to ſuppuration. *Hypocrates lib.* 47. *cap.* 2. hath theſe words, that whileſt *Pus* is in making, paines and feavers doe afflict: but *Pus* being made, paines and feavers doe decline: And to *When an Apoſtume will ſuppurate.* Hippocrat. cap. 2. lib. 47.

Tagalt. Inſtit. confirme the former words, *Tagaltius* in his Inſtitutions, *cap.* 3. hath theſe following verſes.

Durities longa pulſus dolor & calor aucti
Signant pus fieri: ſed facto dicta remiſſa
Sub digitis undans albeſcens pars & acuta.

The fourth time of an Apoſtume. The declination of Apoſtumes, I cannot ſtand to amplifie, but I referre you, as before, to Mr. *Galles* Inſtitution of a Chirurgion, as alſo to *Iohannes Vigo*, and other good writers, for a more ample doctrine in that point, onely note that when the tumour or apoſtume is ripe, mine opinion is rather it be opened by a potentiall cauſtick medicine, then by actuall inciſion, when it may be as conveniently effected, and that for many good reaſons, and one ſufficient reaſon in mine opinion is, if you uſe inciſion, you muſt needs put in tents, doſſels or the like with medicines, to keep open the orifice, and alſo to enlarge it, which doing you ſtop the paſſage of natures true evacuation twixt each dreſſing, offending the parts adjacent, and hinder the unition of the diſjoyned parts, againſt conſcience, detracting good healing: yea, and thereby hazard divers evill accidents to follow, as fiſtulaes, &c. from all which by cauſticke inciſion you are freed, and feare not at all the application of a convenient potentiall cauſtick medicine in due time and place, eſpecially the impoſtume being ripe, and the skin thin, for you can pierce no further then thorow the cutis, though you would for being onely thorow the skin, the matter will choake your cauſticke or corraſive medicine; neither doubt at all, that your work ſhall ſucceed otherwiſe then well, for nature will provide remedie ſpeedily, eaſily and ſafely to heale your patient, provided you be alſo carefull to uſe your endeavour with good warme medicines duely applyed, and with alſo the uſe of good ligature, which is one principall good helpe, good diet and other reaſonable meanes likewiſe had, for I have ever obſerved in my practiſe, that a hot tumour in any outward part of the body, growing either by repletion, obſtruction, fever, or by the evill diſpoſition of the bloud, for the moſt part: yea, even in peſtilentiall and venemous fevers in good bodies, not being pockie nor too too old, are eaſily healed by any underſtanding Artiſt, that can joyne reaſon and experience together, many ſeverall wayes, namely for one, if you perceive a beginning, or gathering of humours together in any part of the body, conſider what might be the cauſe thereof as neere as you can: if you finde it to be fulneſſe of the body, or coſtiveneſſe, you have divers preſent remedies that way to flie unto, *viz.* at the firſt make the patient a ſuppoſitory, then give him a glyſter if need be and a Laxative medicine, alſo according as you ſhall ſee cauſe, regarding the qualitie and quantitie of the humour abounding: but remember where the body is coſtive, you were beſt to begin, as is ſaid, with a ſuppoſitory firſt, and that having cauſed one ſtoole, proceed with a purge, if you ſee further cauſe, or a glyſter, for often onely one ſuppoſitory doth what you require: alſo good fomentations that may by the pores of the skin helpe to breath ſome part

Cauſtick inciſion commended.

Laxative medicines fitting.

of

of the matter, will do well, and ſo the reſt by diſcuſſing and mollifying medicines the eaſier be cured. If the griefe begin in the head or throat you may uſe phlebotomy either under the tongue, on the forehead, or on the arme in the head veine, or median veine: but if you perceive that by empting the body artificially, and cooling the bloud with convenient medicines as alſo anſwerable ſlender diet, and opening a veine, that the collected peccant humors will not be diſcuſſed nor put back, then may you proceed to attraction and ſuppuration as you ſee cauſe; for it were moſt groſſe to ſeeke to detaine that which Nature hath reſolved to caſt forth: wherefore if you ſee cauſe to bring forward any Apoſtume, you may then conſider by the qualitie thereof what courſe to take, namely, by attractive alterative or ſuppurative Medicines; as touching attractive medicines, good attractives at Sea to be had are *Gum Elemui* of it ſelfe, ſpread on lether, and applied; and *Galbanum* alſo is very good, provided it be diſſolved in wine, and not in vineger: *Mellilot* plaſter will well bring forward an Apoſtume hot or cold, and helpeth ſuppuration: Common pitch is a good attractive: Burgundy pitch is alſo good: Of theſe the diſcreet Chirurgions Mate may uſe the fitteſt in his diſcretion, and if he deſire violent attraction of any ſlothfull cold tumour, let him ſet a large cupping glaſſe thereon. Maturatives or alterative Medicines in the cheſt and Ship to be had are very many, yea more then I can call to minde at this time, wherfore to be briefe, *Emplaſtum Diachylon cum Gummis* I put for the principall, for it is for that purpoſe only; *Paracelſus* Plaſters applied thicke ſpread, the place firſt anointed with oyle of Lillies, will do well. But where time and place is convenient in my opinion, a meane Cataplaſme warme and thicke applied ſuppurateth beſt and eaſieſt, *viz.* make a decoction of Althæa roots or Line ſeeds, and the cauſe being cold adde Fenigreeke a little to this decoction adde Bean or Barly meale, oyle of Camomill, Dill and Lillies of each a ſmall quantitie, *Dialthæa* a little, or *Axungia porcina* and apply it warme, and ſhift it twice in twentie foure houres. Or ℞ flowers of Camomill, Mellilote and of Elders an a M.ß, Wormwood, M.ß, Althæa roots bruiſed ʒß, make a decoction thereof in faire water a ſufficient quantitie, adding of Bean meale or Barly meale M.j. and being boyled into a due forme of a Cataplaſme adde oyle of Camomill or Dill ʒiiij. Axungia porcina ʒij. In want of ſome one of theſe flowers another for need will ſerve, and if none of them were to be had yet there is many other meaner helps to bring forward an Apoſtume, which time will not now permit mee to rehearſe. When you have an intent to bring any tumor to ſuppuration, you muſt neither purge nor bleed your Patient, neither appoint him a thin diet. When you would an Apoſtume ſhould go back, if it be above the navill in the breaſt, back, or head, then let your purging Medicines be ſuch as purge downward onely, but if it be below the navill, or in the arms, or legs, vomitive Medicines do beſt, except ſome eſpeciall hinderances, as *Aſthma* or the like: And to thoſe uſes none are ſo effectuall as thoſe which are of *Mercury* truely prepared, for that they do not onely duly evacuate, but alſo divert and draw back the humours from the place offended

Attractives.

Maturatives.

which in truth is a great help to nature. Alſo bloud letting where occaſion is, may be uſed for diverting and mitigating a ſtubborne diſeaſe, but after the uſe of Mercuriall purges it is held of many not to be good to open a veine, of which opinion I am, without extraordinary reaſon urge the contrary. And further if you intend to repell an Apoſtume you may make uſe of this following Cataplaſme of Bean meal, or wheat meal boyled with water and vineger a convenient quantitie that it be not over ſharp, adding a little Terebinthine and very warme apply it, with alſo good cloſe ligature, and ſhift, renuing the medicine every ſixt or eight houres, but obſerving as it is rehearſed, that to repell an Apoſtume ſlender diet with convenient evacuation of the belly, and Phlebotomie are as principals to be uſed. Alſo a ſafe Cataplaſme to repell an Apoſtume in the beginning is, ℞ *farina fabarum* or Bean flower and caſtle ſope, ana ℥j. wine vineger as much as will ſuffice, boyle theſe one quarter of an houre together, and you may mixe a little water with the vineger for feare it break the skin, and apply it warme. Note further that to an Apoſtume broken by a cauſticke I commonly uſe no other thing then *unguentum baſilicon* warme, from the firſt to the end of the cure, or my artificiall balme which I much rather commend upon my long experience, except ſome dreſſings now and then I apply to it onely dry lint, and if nature be not beneficiall to incarne and help healing to my deſire, I uſe a gentle abſterſive medicine, namely a little precipitate mixed with the ſaid *baſilicon* or elſe *unguentum Aegyptiacum* very hot, but that only for one dreſſing & one time, and then to my former courſe again for certaine daies together, namely, till the Esker be falne, and at the leaſt three dreſſings after, which if it give me not good content in hope of amendment, then I proceed further one degree, namely, I uſe for one dreſſing of *oleum ſulphuris per campanam*, or *oleum Vitrioli*, with which I onely touch the Vlcer within: I alſo give a purge, thereupon if the Patient be ſtrong, and then to my old forme againe, till nature be at reſt, I meane as is ſaid, till the Eskar be cleane gone, and yet five or ſixe daies further: but if then I ſee it be ſtill ſtubborn, I proceed to the next ſtep or degree, and crave help from my honeſt old friend *Mercurie* who if he fail me judiciouſly applied, then I confeſſe I am almoſt to ſeek, but he ſeldom failed me performance if my Patient were not the cauſe, the diſeaſe being by Art curable. The mercurial medicine I moſt uſe in ſuch caſes you ſhal find to be rehearſed in the cures of Fiſtulaes and Vlcers.

If an Apoſtume be opened by a cauſticke medicine the Apoſtume of it ſelfe being concavous, I meane having a great hollowneſſe, going deep this way or that way, ſtrive you not at all, either with tents, plegents, or dorſſels to fill the ſaid concavities, and to divide the parts aſunder which deſire unition, but only dreſſe thou the outward or ſuperficiall part with warme *baſilicon*, artificiall Balme or the like convenient medicine, putting it a little within the entrance of the orifice of the Apoſtume upon a little lint on the end of thy Probe, untill the firſt, ſecond, and third dreſſing after the opening be paſt, and if thou have any of thy Cataplaſme remaining with which thou didſt ripen the Apoſtume, apply the ſame very warme, if not, apply ſome good

Emplaſter

Emplaſter over it, anointing it with balme artificiall, and applying daily thereto a good balme or *baſilicon* warme, and feare not if thou make thy applications warme, and uſe good rowling and boulſtring, which is a principall part of the healing, with likewiſe good diet and convenient evacuations of the belly where thou ſeeſt cauſe, but thou ſhalt heal comfortably, onely forget not if occaſion be, that ſometime thou make injection into the concavitie of the Apoſtume with ſome fitting mundificative or abſterſive medicament, namely, with a fitting Lotion it will doe well, but uſe it warme, and charge it not often with it, nor at all except great cauſe, yet upon due occaſion if an Apoſtume turne to a moiſt watry concavous Vlcer, thou maiſt then adde to thy Lotion *Aegyptiacum*, but be not too buſie with ſuch medicines. It may be alſo thou maiſt thinke how ſhall a good healing follow where the ſore is not ſearched, and with tents, and like medicines healed firſt at the bottome: my loving Brother in that thou ſhalt behold the excellency of Nature in our bodies, which being once eaſed of the burthen of that vicious and offending humour which was the cauſe of the diſeaſe, it will at firſt ſeeme admirable to thee being a divine worke, for nature intends healing without thy helpe, firſt by little and little ſhe avoydeth the dregs of the diſeaſe, and ever as faſt within by Gods providence incarning new fleſh as the quitture is outwardly avoided, not by means of thy incarnatives I muſt tell thee, whereon I adviſe thee not to truſt, albeit they be never ſo good: experience will ſhew thee that Abſterſive medicines, namely, ſuch as have vertue to ſcower and exiccate or drie, leaving a certaine ſtipticknesſe behind them, do beſt incarne judiciouſly applied, yea and thoſe medicines which are moſt cauſtick of all, are truely moſt incarnative, for I ſpeake this upon my knowne experience, that upon the true and judicious uſe of them the Vlcer will ſoon incarne, onely with the uſe of drie lint farre more then with any unctious Medicine whatſoever, yea though it be *Vnguentum aureum*, for it is an infallible rule in that divine myſterie of healing, who ſo can drie well can heale well: if thou with thy over many cauſticks following each other, or by keeping the parts too much aſunder hinder it not, for too much exiccation or drying will make worke, not heale, which beware of.

A caution.

An infallible rule.

Some Artiſts have in uſe long hard tents, this way, that way, or dorſells, or plegents for perpetuall keeping open an Apoſtume, for ſay they; I will ſee a good ground, and a ſound healing at the bottome ere I take out my tents, and then I will begin to ſhorten them: I ſay ſuch are unworthy Chirurgions, yet I deny not an Apoſtume or Vlcer may be in ſuch a part of the body, as namely, in the corner of the eye, or in *ano*, which in no wiſe will ſafely ſuffer healing, till ſome cauſticke medicine have well ſearched, yea, and as it were ſeared the bottom, which once effected, go on, in the name of God, with your precedent courſes of healing againe, namely with all ſoft, gentle, and ſpeedy healing meanes, as before ſaid.

For *Natura naturans naturat omnia*, and marke it, forby this reaſon an oldwife oftentimes exceedeth a great Artiſt in healing, for ſhee wreſtleth not with Nature as great maſters doe, and Nature pleaſed

with

An old wives medicament better then an unwiſe Artiſts medicine.
Errors in Chirurgions worthy reproofe.

with her milde and ſimple meanes is appeaſed, and by divine providence the diſeaſe often eaſily made whole: for I know it for a truth, and by too much experience of my owne, as an eye witneſſe in other mens work I have ſeen as great harme done, and as groſſe faults committed by unworthy Chirurgions for want of mature judgement in over-doing, as by old wives, or fooles in under-doing. For many Chirurgions never thinke they have played the workmen till indeed they have made worke: Some by error for want of judgement, others for baſe lucres ſake, prolonging and aggravating with things not onely contrary, but alſo dangerous to nature oftentimes, laying bare the bones, and by fowling them with their cauſtick medicines when there is no need, preſaging wickedly before hand upon unperfect grounds, bones to be fowle, when to their ſhames they have made them ſo themſelves, as is ſaid, either for want of honeſtie, or want of true jndgement to conſider: wanting charitable and Chriſtian reaſons, or not being capable what the benefit and force of Nature is able to effect, whereas if they would proceed mildly, and with ſleight Medicines they might oftentimes effect farre more then they do, or can. *Nam natura paucis contenta, & ſublatâ causâ tollitur effectus: Nature is content with ſmall things, and the cauſe removed the accidents or effects ceaſe.* I wiſh rather a Chirurgion ſhould heale gently, yea though he ſhould hazard the breaking out againe of the griefe, which will not eaſily be if he rationally follow the precedent method, rather then by keeping the griefe open long too give occaſion of deformitie, lameneſſe, loſſe of limbes, fiſtulaes or the like, which very many in the height of their great conceited skill procure; which were it but onely the guilt of conſcience, if they feared God, they ſhould not dare to do. Theſe and the like groſſe errors, unexcuſable before God and man, have brought to the Art a ſcandall, and a ſenſible feeling of want upon many vertuous Profeſſours hereof, ſo that the guiltie and unguiltie are cenſured both alike by the common ſort, and the one ſmarteth for the others fault. But thoſe which for gaine or otherwiſe will prolong the health of thoſe that commit their lives, or limmes to their mercy, or approve of it, the Lord pay them tenfold as much to their ſhame: and ſo for this time I conclude concerning Apoſtumes, onely let me give thee this caveat concerning *Precipitate mercury*, or of any kinde of Turbith minerall, uſe them not much neere any bare bones without very great judgement, for they will blacke the bones, neither uſe any of them in any new wounds, as is ſaid, for if you doe they are very apt to procure lameneſſe, or ſhrinking of the ſinewes. All ſwift healing in new wounds I eſteeme beſt, yea without any cauſticke medicines at all if it may be, which the Artiſt need not doubt of where neither bones broken, nor other juſt thing of like kinde hindereth the worke. Thus much concerning the generall curing of tumours, to the praiſe of GOD.

Of

Of the Cure of *Vlcers*, and *Fiſtulaes*.

FOr haſte I have mixed *Vlcers* and *Fiſtulaes* together, for that they are of affinitie in ſhew and cure: whoſe ſeverall definitions I alſo forbeare for want of time, and enter into the Cure at the firſt. Wherefore note as followeth. If you chance to have in Cure an Apoſtume, that by the malignitie of the humors, or other evill diſpoſition of the body changeth it ſelfe into a rebellious *Vlcer, concavous, fiſtulaes*, or into any the like height of malignitie; or that ſuch an *Vlcer* come to thy hand from an other Artiſt, be not out of hope to cure the ſame. For if nature be not utterly thy enemy, the member being not pierced thorow in the joynt, and ſo the ligaments rotten, and perhaps the ends of the bones alſo, or ſome other apparent token of incurabilitie, proceeding as followeth, thou ſhalt be able to cure the diſeaſe, by the helpe of God. *Vlcers Cures.* *Prognoſtication.*

Firſt, therefore entring into due conſideration of the age and ſtrength of the Patient, with other reaſonable reſpects had, give him a doſe of ℈ ij. or of ʒ j of *pulvis Arthreticus* and 3 daies after of *Aurum vitæ* a doſe, viz: grains 8. which he ſhall take whileſt he is yet in bed, and cover him warme, and yet but ordinarily, and it will cauſe him gently to ſweat ſome 2 or 3 houres: then let him wipe himſelf and riſe, and afternoone he will feele himſelf very much refreſhed. Then the next day or two daies after apply to the *Vlcer* a little *Aqua benedicta*, that it may come to the bottom & into each part of the *Vlcer*, namely with a little linte on the end of a *Probe* wet only therein, and ſo leave the linte ſticking in the mouth of the orifice for two daies, dreſſing it only with oyle of roſes till the *Esker* remove, with alſo a *Minium* plaſter over it, this will cauſe ſome paine, and produce a ſtrong *Esker*, which being fallen, fill the orifice full with dry linte, for the firſt and ſecond dreſſing, putting the ſame very gently in; for it will be exceeding tender. I am of opinion that it is meere idlenes to apply any medicine ſoddainly to provoke the fall of an *Esker*, as I have mentioned elſe-where. For I dare affirme it furthereth nothing good healing: for when the time of nature is come it will fall without thy helpe, thou canſt not keepe it on. And I hold it as a hopefull ſigne of good healing, when the *Esker* is ſlow in removing. Wherefore the third dreſſing after the naturall fall of the *Esker*, having for two dreſſings, as is ſaid, uſed only dry linte, take of the white *Aquilla laxativa* a little, I meane 3 or 4 graines, and mix with it *Plantaine* or faire water, or an ordinary *Lotion*, onely that it be as a very thin *Vnguent*, and wet well the wound therwith warmed, and fill it with dry linte, and give the party in to drinke of *Aquillæ vitæ* 4 grains upon the point of a knife. This will cauſe him to vomit, and make a ſtrong diverſion of the humors, and then proceede in the cure with drying ordinarie *Second dreſſing.* *Third dreſſing*

dinarie medicines, namely dry linte onely some foure dressings, and some one dressing now and then, with a little *Aquilla Laxativa* upon any linte, onely to touch the *Vlcer* within: this causeth no paine at all, or little some dressings. Also I apply *Basilicon*, either alone warme, or sometimes mixed with a little of the powder of *Aquilla Laxativa* strewed thereon. And when I use this dressing, I let the dressing remaine for 24 houres at the least, and then to my dry linte againe: and perhaps if I perceive the *Vlcer* or *Fistula* to have any other secret cavities, and see that it be not fully touched in the bottome, I use once more my *Aqua benedicta*, and give a second vomit of *Aquilla vitæ*.

Fourth dressing.

Also I observe it for good in the conclusion of each sure cure, to give such a vomit, where the strength of the Patient will beare it. Furthermore I prescribe the Patient a strict drying dyet, where I see good cause, not otherwise. But remember this principall rule, that what day he either taketh vomiting, purging, or sweating medicine, that the same day he forbeare his dyet drinke. Further beware that you prescribe not over slender dyet, to him which is already pinched with weake dyet, either at Sea or Land: or whose dyet is of bad nourishment, as too often times it happeneth amongst poore Seafaring men in long voyages. Thus using this afore-prescribed medicine judiciously, you may cure any pockie *Fistula*, or inveterated *Vlcer* whatsoever, if they by Art are curable. And for any pockie *Vlcer* on the *virga*, I meane either upon *glans*, or *præputium*, or twixt both, onely touch it but once with the aforesaid *Aqua benedicta*, and give the partie one dose of the *Aquilla vitæ*, and without question you shall cure it afterwards as if it were a greene wound, but remember it will cause *Virga* to tumifie sometimes much, but be not afraid, for by the use of *Lotions* mixed with Plantane or faire water daily warme, and cast it in twixt *Glans* & *Præputium*, it will soone amend. It cureth also any warts of the *virga* by onely touching them, and that if they be touched but very gently: for it is a strong medicine, and procureth some paine, but not in warts, yet honest it is and sure, for it will not faile: and if once you acquaint your selve with the parts thereof, you will never afterward use *Trosses* of *minium* nor *Mercury* su blimate againe; and yet let me speake my Conscience, both *Trosses of minium* and *Mercury* sublimate are worthy Medicines, their whole force and healing vertue being indeed onely the quick-silver and spirits of salt, and no other thing, whose companion was never found out for healing and killing. I have often cured desperate *Vlcers*, yea and *Fistulaes* with *Trosses of Minium*, as also sometimes with onely a Tent made of *Mercury sublimated*, and put into the orifice. And how excellent it is inwardly given being truly prepared, I will for this time forbeare to speake, till I write of the preparation of such medicines, as I have here divulged under strange names. Thus much of *Vlcers* and *Fistulaes* to God his glory, and the helpe of the weaker sort of young *Practitioners*.

Other rules for the finishing of the Cure.

The

The Cure of Fractures.

THE first Intention in the Cure of Fractures is performed by restoring the bones disioyned, and taking away any loose peeces or fragments of bones if any be.

The second Intention is performed by keeping the parts together, namely, the ends of the bones formerly displaced and fractured by violence.

The third Intention to be done, is the curing of the wounds or contusions incident to fractured bones.

The fourth, to prevent or remove the accidents.

The first part of this worke, namely, the restoring or rather bringing to their places, the fractured ends of the bones, is performed by extention, and a skilfull and ready hand touching the extention: let it be done *paulatim*, by little and little, as the tearme is, with even hands, not by jumps or on the sudden, and yet with as much force as is requisite, namely, till the Artist standing by with his hands upon the griefe, perceive he is able to set the ends of the bones into their place; which done, it is then required that they be kept so. *The first worke.*

The second curative intention of fractures, is performed by keeping the ends of their bones placed in their right forme and place.

This part is chiefely done by good ligature, wherein I am willing to impart to young Artists my Practise in curing fractures in the thighes and legges, and understand I use no rowlers at all, but clowts, splints armed and tape, my reason is, it is a great disease and disquiet to my Patient, yea though I have two assistants to hold the member, to come so oft about the member as to rowle it, and endangereth much the disioynting of the bones againe, and causeth paine.

And it is manifest that in simple fractures, the placing of the bones and keeping them so, is the most worke of the Cure, and nothing cureth a fractured bone so much as rest: wherefore when a bone is newly placed, and shall be troubled much with lifting and rowling, it cannot but hinder unition, and procure some accidents offensive, my forme of ligatures in fractures is to have next the member one four-double clowt in length, I meane above and below the fracture, so long that the ends of the splints I intend to use, may have a resting place on the clowt. And if I intend to cure the Patient by a Lixivium I apply it on this said clowt, appointing the medicine ever to bee next to the griefe, then I have another like great cloth to come over that againe under the splints, which being close and smooth

brought about the member, I then put under the firſt ſplint of a good bredth and length well armed with tow, and under that I lay foure or five ſtrong tapes, then I tye one of the ſaid tapes gently, and thruſt all the reſt of the ſplints under the ſame tape, namely, ſo many as may compaſſe the fractured member, lying cloſe, but with ſome ſmall diſtance, that they touch not one another, then I tye the reſt of the tapes, drawing them cloſe, till the partie ſenſibly feele them to beare in all places, the ſplints I appoint commonly ſo long as the member can beare without galling or troubling the next joynt: theſe things ſo done, if either the legge or thigh be fractured, I appoint him junckes, as ſome tearme them, namely, bents rowled up in canvaſſe to come above his knee, and downe to the foot, yea though onely the legge be fractured, it is fit theſe bundles of junckes be as thicke and thicker then the member fractured, for that they may defend it in bed from wrong, and they are gently to be bound to the member, that they may turne with it if occaſion be; to theſe junckes alſo a cloth may be faſtened, which may be brought under the foot to ſtay the ſame up, to his due poſition, which is a great eaſe to the patient, and beleeve me, if once you be but perfect in this forme of ligature, you will never deſire a rowler in the Cure of a fracture: I uſed rowlers till I ſaw the ſufficiency of this forme of binding, which now I deſire not to change.

The Cure. The third intention is the Cure, wherein the inward and outward courſe of the Cure is to be conſidered of. Touching the regiment of the body: concerning ſuſtenance at Sea, the Patient need to have it no thinner then the Saylers ordinary, and touching medicine let him have the benefit of Nature, that is onely every day, or the ſecond day, a naturall ſtool or an artificiall help by ſuppoſitories or glyſters, if there be great neceſſitie not otherwiſe, and if a Fever happen, give him a Barley water, with a little oyle of Vitrioll therein; and if that help not, open a veine on the contrary ſide, and if you feare putrifaction of humors, give him a little Diateſſeron, Triacle or Mithridate, or the like, if he complaine much of the paine, ſearch the cauſe, namely, ſee that the ends of the bones lie right, and that the ſplints gall him not, alſo that there be no wrinckles in the clouts applyed, and that it be not too hard or too ſoft bound, all theſe things duely conſidered. The medicines I uſe are as followeth, either I uſe a reſtrictive ſtuffe, which is as followeth.

The ingredients of a reſtrictive, the manner of compoſing it.

℞ *Bole* ℥iij.
Aluminis.
Thus ana. ℥ß.
Radix Conſolidæ in powder ℥ij.
Lapis Zabuloſus ℥iß.

Theſe all made into fine powder, and mixed with the yolkes and whites of two egges together, if they may be had, adding wine vineger, and mixed as much as will ſerve to make this medicine into the forme of a Cataplaſme, and in want of egges uſe water and vineger onely ſo much as is needfull, alſo if Comfry roots be not to be had or *Thus*; they may be forborne, you may in their places for need,

though

though not ſo very well uſe Bean-meale, I have done very well many times, onely with Allum, Bole, Egges, water and vineger, though Bean flower is alſo very good or Wheat flower, and as for the medicine called *Lapis Zabuloſus* heere recited, it is a medicine found out in the Arch Duke of Brandenburg his Countrey, named in the Germane Tongue, Beine broucke, which in our language is a broken bone, being in ſubſtance like chalke and in forme like a bone, ſome peeces like ribs, other like fingers, others like legges or armes, bones of nature ſo growing. This medicine I know to excell many other in healing fractures both outwardly applyed in Cataplaſmes, and inwardly taken daily the quantitie of ℈j. in fine powder in wine, beere, or water, the patient faſting for two houres after the taking thereof. In great fractures the Germane Chirurgions, preſcribe this aforeſaid medicine daily to be taken for twentie foure dayes, if they ſee cauſe ſo long to uſe it: The other forme of application to fractures uſed and commendable, as I have ſaid, and from which I am digreſſed is a good ſtrong Lixivium made with freſh water and aſhes till it be ſlipperie, namely, let the water be made ſeething hot ere the aſhes be put in, adding if they by ready, or may be had in the Ship theſe hearbs following: S^t. *Iohns* wort, Wormewood, Centaury, Roſemary, Sage, Camomile and Mellilote flowers, or at the leaſt ſome of them, alſo you may adde Lupines thereto: but howſoever though there be no hearbs, adde ſalt good ſtore when it is cleered, but not before; and then though you have neither hearbs nor lupines, it will be of good force, for it is the vegetable ſalt in the aſhes, which is the beſt healer, the next beſt is the minerall or Sea-ſalt, wet the clowts rehearſed therein, & wring them out hard, and apply them ſmooth, cloſe & hot about the member binding it ſo up: this ſecond forme is eſteemed of moſt Artiſts the ſafer, for avoyding Gangrenes, which fractures are much incident unto, by reaſon of great ſtore of contuſed bloud gathered, that can hardly be diſcuſſed on the inſtant, which thereby cauſeth obſtructions, whereupon followeth inflammation and paine, and conſequenly a Gangrene, and ſurely the firſt is not inferiour to this: for by the meanes of the Allum and the vineger it ſwageth paine, tempereth well the parts, and yet repelleth and diſcuſſeth the bloud gathered, and being once baked to, it fortifieth mightily the member, by ſticking cloſe and hard to it, I have uſed it long without repentance, and the other ſometime: but for that it helpeth of it ſelf to keep the member to his ſtraightneſſe, I the rather uſe it.

Obſervations for the cure of the great bone of the legge fractured.

Theſe things ready, I meane the one or the other forme, ſuppoſe then the greater foſſill or bone of the legge were fractured, make true extention (as is ſaid) that both ends of the bones meet together, namely, let one ſtrong man take the one end of the fractured limbe, and another the other end, thy ſelf ſtanding free, and let them draw out the member, directly when thou art ready, and not before, neither by jumps, but leiſurely and together: likewiſe if they beare their hands too high or too low in drawing, they cauſe great paine to the patient, and likewiſe cauſe the bone to lie unapt to thine hand to reduce it. It is knowne when the ends of the bones meet, for that not onely

How to know when the ends of the bones meet aright.

the member is returned to his former beautie againe: but alſo by it much of the paine is eaſed, for it is a ſure rule, if the paine abate not, all is not well: The bone, I ſay, firſt well reduced, bring your ſtuffe formerly rehearſed and put it under the legge, the parties that extended, not forſaking their hold, and lap it about ſmooth and cloſe as you can, without wrinckles, lumps or ſeames, and that the ends may alſo fould ſmooth one over the other, wrapping it double and ſmooth over the ſhinne bone, the cauſe why I uſe to fould it double on the ſhinne bone, leaving it there to be opened, is that if it chance there be a wound it may be dreſſed the better without undoing all: but if no wound be, yet it fortifieth the bone the better, by the doubleneſſe thereof being ſmooth, then lay your next cloth broader and longer then the firſt, over the firſt, being wet in water and vineger if there be cauſe, and wrung out. Let the ſecond cloth, I ſay, as alſo the firſt, be longer then the ſplints, that the ends of the ſplints may reſt thereon, and not on the bare legge, placing the ſplints in their order about the legge, till you have compaſſed the legge, laying them (as is ſaid) not too cloſe together, that they ride not one over another, neither touch each other, nor come upon the joynts, remembring to put all your tapes under together, in number it were fit to have five or ſixe, namely, two on each end, and two for the middeſt: Alſo if there be a wound, you muſt ſo order the matter, that you may daily apply to the wound neceſſary medicines, whereas otherwiſe if there be no great cauſe, namely, through much paine or the like, you may well forbeare ſixe daies, or ten dayes, provided that you ſee the legge be ſtraight and well laid in an even poſition or forme; and that it may lye the ſafer, it were good to be provided with the aforeſaid bundles of reeds or bents, as thicke as the legge or thicker, to come from the foot, and one hand breadth over the knee, which ſhould be wound and wrapped in canvaſſe, and bound to each ſide of the legge artificially with foure long tapes, and at Sea you may take for a ſhift two billets bumbaſted with a little Ocum wrapt in an old peece of a Saile. Further in fractures with a wound, if you uſe unctions and liquid things, as oyles; you hazard putrifaction of the bone and apoſtumation: herein alſo great care muſt be had, that the legge muſt be kept ſteddy, for diſquiet therein will bring apoſtumation, and mortification, and death alſo: beware likewiſe of over hard binding, for it bringeth aſtoniſhment and hazard of a ſudden Gangrene and death, it is a generall fault of divers young Chirurgions, for many thinke they have never bound hard enough, and yet too looſe is a fault, but eaſily may be amended, and I adviſe thee to look to thy Patient often, that his ſplints gale him not, for that bringeth want of reſt, and divers evill accidents depending thereupon, I ſpeak this of mine own experience, not to my praiſe: let him have no wine except he be weak, let him once in two daies by Nature and Art have a ſtoole, holding theſe rules with little trouble, it is not hard for him that will be careful to cure any fracture: for indeed as is mentioned, the bone reſtored, reſt is the chiefeſt medicine to cure a fracture, yea it will effect it almoſt without medicine, the member being onely artificially bound, and ſplinted orderly;

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the inward medicines for fractures I ſay need not to be many, onely give him in beere daily, in wine or water, as thy diſcretion ſhall move thee, the mentioned *Lapis Zabuloſus* ℥j. for tenne or fourteene daies if you have it: ſometimes if neede ſo require, a lenitive glyſter may be given: Alſo the beſt locall medicine to wounds with fractures in my opinion is good *Baſilicum* or *Arceus Liniment* being warme applied thereto ſometimes as you ſee cauſe; Alſo you may uſe an Abſterſive or Corroding medicine, as *Allumen Combuſtum: Aegyptiacum, Vng. mixtum*, or the like: but in theſe things reaſon muſt inſtruct the Artiſt more then precepts, but beware of the ouer-uſe of ſharpe medicines neere the bone, for thereby often a bone is made foule, which before was cleere, this error is too frequent, both in young, yea and many olde Surgions alſo, who apply ſharpe medicines often without true iudgement, not only in fractures, but alſo otherwiſe, and as for ſimple fractures, I have cured them often with onely a ſeare cloth made of waxe ℥iij. roſin and ſheepes ſuet, of each ℥j. dipping a courſe canvas therein in forme of a ſparrowdrope, and ſo have wrapped it warme and cloſe about the limme, that it might reach at the leaſt three fingers above, and as much below the fracture, with apt ligature, as I have recited in the manner of the application of the Cataplaſme: This in fractures of the armes is as good as any, and from the firſt to the laſt this ſearecloth may be uſed. Remember alſo in any fracture that if either by the galling of the ſplints or heate, or other diſtemperature of any medicine or itching humour excoriation or heate appeare, that you apply next the greiſe for one dreſſing *vng. Triapharmacon* ſpred vpon paper, and your other uſuall medicine thereon, and it will become well with one onely dreſſing, being taken ere it grow too farre.

A ſpeciall Caution.

A neceſſary rule for heate or excoriation of the member fractured.

Thus much concerning fractures, not writ from any mans authority, but truly and plainely as I have done the like in my practiſe, for which let God be praiſed, *Amen.*

Concerning the Cure of *Diſlocations.*

ALthough I have ſeene diuers skillfull men performe good workes in Diſlocations, and reade ſomewhat, and for many yeeres practiſed my ſelfe, yet know I not in this part of Chirurgerie by words to deſcribe ought to the purpoſe, which might ſerve at all aſſayes, or upon all occaſions for the helpe of young men, for as much as ſo many unexpected obſeruations and ſtrange occurrents happen in and by Diſlocations, as would aske much time to explaine or but to touch all, yet in a word or two, I hold it not unfit to adviſe them ſomwhat

what concerning Luxations or Diſlocations. Firſt therefore it is a generall rule that you muſt uſe extention almoſt to euery Diſlocation, eſpecially in the ſhoulder, in the huckle bone, in the knee, and in the ankle, for I may boldly ſay, where the Artiſt findeth a member longer then his due forme, hee ſhall hardly doe good on it, namely if it proceed by evill diſpoſition of nature, or that by the abundance of vicious or viſcous humors it have extended it ſelfe, or that it have beene over much extended and thereby is longer. Extention is therefore to be carefully made, I meane as I have ſaid in the Cure of fractures, not on the ſuddaine, nor too forcible, but yet with ſtrong and ſteddy hands, for in the extention is exceeding great reſpect to be taken, and it is the principall worke yea and much Charity is to bee uſed therein, for too farre extending weakneth much, if not overthroweth the true uſe of the member, even ſo too little extended, produceth not the effect intended, I meane it ſerveth not to reſtore the bone diſlocated; even ſo the extendors raiſing their hands too high, or putting them downe too low, hinder the comming of the bone into his due place, and cauſe greater paine to the party: furthermore it were good when the Artiſt taketh view of a member Diſlocated, that the other ſide alſo were uncovered, that thereby the true forme and ſituation of the diſeaſed limme, being well regarded and compared together with the whole ioynt, the better iudgement, and truer indication might be taken: I meane if one ſhoulder or elbow be out of ioynt, let the Artiſt make bare the other ſide alſo, for that there is often greate difference in the naturall proportion or ſituation of mens Ioynts: having therefore firſt viewed, and then alſo ſufficiently extended, and the forme of the other ſide alſo, as is ſaid, ſeene and kept in remembrance: then ſeek to reduce or place the bone by thoſe meanes, which in thy owne reaſon ſeeme fitteſt conſidering and well weighing the naturall forme, and true ſituation of the Diſlocated bone, as is ſaid, which in truth is unpoſſible in my opinion by letters to explaine: this done, for the moſt part, yea and in very greate diſlocations, the work thou maiſt account is done, and the feare at an end.

Certaine rules for the cure of diſlocations

My ſelfe have ſet divers ſtrong mens bones, I meane the ſhoulder bones chiefly, which have done labour the ſame day, nevertheleſſe I denie not but it is good and very neceſſary to apply to the place things diſcuſſing, anodine, and mollificative as reaſon ſhall induce the Artiſt unto: you may therefore anoint the place with oyle of Roſes, Camomill, Dill, or Earth-wormes as you ſhall ſee fitteſt, and apply thereon a Plaſter of *diacolon diacalſiteos*, *Paracelſus* plaſter or the like, and ſo rowle and binde up the member artificially as ſhall be moſt fit, and let it have reſt: if thou feare further accidents thou maiſt alſo give the partie ſome laxative. The bone I have ſaid is never truely reſtored, if the paine continue. Againe, if there be a great tumour in the place diſlocated, ſo that thou canſt not therefore well reduce the bone, then maiſt thou lay the partie to reſt, and the member alſo to as good reſt as thou canſt, and by things mollifying, and diſcuſſing ſeeke to aſſwage the tumour, in which caſe a good *Lixivium* deſcribed in the

the Cure of fractures were good to foment it withall, or a good Cataplaſme made of Oate meale and Linſeeds boyled in beere or water, with a little oyle of Elders would doe very well, but take this for a rule that if thou be called to any diſlocation where a tumour is, if itbee but a tumour of one, or two, or three daies gathering, attempt thy beſt to reduce the bone notwithſtanding the tumour: for if by extention and paines taking thou canſt get the bone into his place, thou needeſt not to feare the tumour, for it will quickly be gone: whereas on the other ſide if by thy other applications thou canſt not in reaſonable time diſſolve the tumor, a callow or ſtrange ſubſtance may be fixed in the place that thou ſhalt never be able to diſſolve, alſo the ligaments and heads of the Muſcles will be grown hard and ſhrunke, and thou maiſt feare a lameneſſe and withering will follow to that member: wherefore with a carefull conſideration ſeeke to reduce any bone, the ſooner the better.

The ſooner extention is wrought the better.

I uſe an inſtrument in diſlocations which I learned the practiſe of in *Polonia* whileſt I lived there, which I call by the name of a Commander, for that rightly placed and uſed it will ſurely command; and I have uſed that one ſelfe ſame inſtrument to the ſhoulder, wriſt, Huckles bone knee, and ankle with good ſucceſſe. I may truly ſay I have ſet with it above 500. ioynts at times, and neuer once repented mee of the uſe therefore: and to ſhew thee how I uſe it marke a little my words, for I muſt be briefe: If I ſee iuſt cauſe of the uſe thereof and with my owne hands and ſome others to help me I cannot without much paine to my patient bring the diſlocated bone to his ſeate, if this diſlocation, I ſay, be in his ſhoulder I place the butten of the inſtrument being ſomewhat flatte on both ſides, not round, iuſt into the arm-pit, or hollow place, I meane under the upper round end of the adjutory bone, or betwixt the ſaid bone and the body, and directly under the os humeralis or os Scapula as cloſe as I can, the end of the recited button being well armed with tow bound on with a cloute: which done I put on the Iron ginne which belongeth thereto at the lower end of the Commander, where are certaine holes with one Iron pinne for diverſities of lengths of limmes to be extended, this ginne having a reſting place for to ſtay it to the pinne recited, and another for to take hold of the end of a ſoft towell to be tied about the wreſt of the diſlocated arme, which wriſt bound about, and the lower part of the towell, or ſome ſtrong lether, band, or coard, faſtned to the ſaid towell, and alſo faſtned to the upper part or teeth of the Iron inſtrument, let then ſome garter alſo be gently tied about the party his arme, betwixt the elbow & the wriſt to ſtay the arme to the inſtrument. It were alſo good that the inſtrument, I meane the wooden Commander, were iuſt of height with the party, I meane from the place where it is to be placed to the ground, but becauſe that cannot alwaies be expected, let the partie diſeaſed ſtand in that order, or ſo under ſet the inſtrument that it may fall out ſo: and underſtand further that the party for any bone of the arme diſlocated muſt be ſtanding whileſt it is placing. And for the thigh, knee, or ankle lying. Having placed, tied, and faſtned the parts together, as is ſaid, let one

for

for thee stop to turne the extending instrument, and turne it gently till all bee reasonable stiffe, the commander standing vp right close by the Patient his legge: and let some one strong man stand on the other side of the Patient, with his armes about the Patient his necke to keep him upright, to the busines: these things ordered as is said, with thy owne hands seeke to reduce the bone: I have often found when I have extended but to a iust length, the bone hath of it selfe returned to his place, thou wilt wonder at the facilty thereof, if thou proceed orderly, I nor no man else can teach thee by written words halfe so well, as by practise, with once using it, thou wilt finde it out.

And when thou wilt use it to the huckle bone, note the button on the top must be taken off, and a cushion bound on the place thereof; the party must also be so placed lying that his huckle bone, thigh and legge must hange over the beddes feet free from the bedde, or so laid on a table that all those parts may bee free, and his legge below, the knee mustbe gently bound to the Commander, as is said of the arme: In all thiswork neat ligature, true extention and a carefull industrious hand must performe the busines, and practise must be the meane; for myselfe I have no time to amplifie further: this which is said is practise, for the which if thou finde profit by it, give God the praise.

Of Dismembring or Amputation.

AMputation or Dismembring is the most lamentable part of chirurgery, it were therfore the honour of a Surgeon never to use dismembring at all if it were possible for him to heale all hee undertaketh; but necessitie hath no law the: Patient will declare in his naturall desire to live, the comfort that hee hath by it. Since therefore it is of necessary use, let the discreet Surgeon be ever prepared for it, and to that end let the Dismembring saw be alwaies in a readinesse, well filed, and cleane kept in oyly clowts to save it from rust, let it also have two blades well filed ere you put it into your Chest, for that one tooth in a Saw may breake. If you be constrained to use your Saw, let first your Patient be well informed of the eminent danger of death by the use thereof; prescribe him no certaintie of life, and let the work be done with his owne free will, and request; and not otherwise. Let him prepare his soule as a ready sacrifice to the Lord by earnest prayers, craving mercie and helpe unfainedly: and forget thou not also thy dutie in that kinde, to crave mercie and helpe from the Almightie, and that heartily. For it is no small presumption to Dismember the Image of God. This done, have thy other Instruments ready, namely, a good Dismembring-knife, a small Incision-knife, two great square stitching needles armed with very strong thred waxed, which some

Certaine rules before the worke to be practised of the Patient.

Other rules which concerne the Surgeon his preparation for the worke.

some use, but may also be forborne, and one needle also and thred of the ordinary sort to sow rowlers: likewise have ready long clouts, lesser clouts plegents of tow greater and smaller, dorssels, and buttons of tow, three broad strong rowlers or foure, of foure yards long each, with also a forme convenient for to place the Patient on, with a large boule and some ashes therein to receive the bloud, let it be set under the end of the forme, then wet your clouts, I meane your beds or boulsters in water and vineger, and wring them out hard, which done, make ready your medicine, I meane your restrictive powders of both sorts: have also ready strong wine-vineger, or other good vineger, and the white and yolke of an egge together mixt if it may well be had, or else vineger only, spread your plegents ready with the restrictive stuffe or Cataplasme following, have ready the stronger restrictive powder mentioned, namely, the ordinary restrictive ℥j. and of burn'd Allum ʒj. Vitriol burn'd and of Precipitate of each ʒiß. all these mixed together: This mixture I have termed the strong restrictive powder, for that it forcibly restraineth Fluxes, and maketh an Eskar: have ready also one plegent made no bigger then the end of the member, let it be spred with this recited strong Restrictive, mixed with an egge and a little vineger, which done, strew it thick with some of the said strong powder mentioned, having another plegent ready, broader then the former spred with the ordinary restrictive mentioned and mixed with an egge as the former: also, take of the buttons of tow some foure or five, wet them in the strong restrictive to be laid on the ends of the great veines and arteries when they are absized: This done and ready, place the Patient on the mentioned forme with one strong man set behind him, and another to stand before him, bestriding his thigh close to his body, compassing strongly with both his hands the member which is to be taken off, and holding it exceeding fast some two fingers above the place where you intend to take it away, and let another hold up his foot. It were not amisse also to have ready a Swines bladder which hath been somewhat wet and dried off againe: which after the stuffes the first bed and first long rowler is spent, draw on the Bladder, and proceed to rowle againe to the full end of the worke, in the name of the Almightie, the sharpe Instruments being as neere as you can, ever hidden from the eyes of the Patient; the two ministers or helpers also being ready, and having hold on the member one above, another below, and also one sitting behind, as is said on whom the Patient may leane backward, and rest on: then take your dismembring knife, and with a steddy hand and good speed, cut off flesh, sinewes and all, to the bone round about the member, which done, take a smaller incision knife and divide the panicle called the *periosteon*, from the bone, it is a tough thin skin, covering all the bones of the body; also thrust your said incision knife betwixt the fossels or bones, cutting away whatsoever is to bee found there with like expedition: the partie that holdeth the upper part of the legge with all his strength, griping the member together to keepe in the spirits and bloud: It were also very good that the said party holding the member,

the flesh and sinewes being cut asunder, should immediately draw or strip upward the flesh so much as he could, keeping his hold, that therby the Saw may come so much the neerer, which would occasion a quicker and better healing, the flesh being thereby made longer then the end of the bone: then if you approve of that course of stitching, as some good men do, take the two strong square needle & threds mentioned, and presently after the member is taken away, stitch the skin thorow on the one side, and just over on the other side, and with the other needle doe likewise as it were crosse over the member the other way, & draw the said threds so close as you think convenient, the better to stop and choake the great veines & arteries, then tye them fast, and presently put buttons to the heads of the veines and arteries: then apply the restrictive Plegēts together, the lesser spred with the strong restrictive lying on the broder, spred with the ordinary stuffe: this broder plegent must come at the least three fingers over the stump, and a linnen bed with them presently following, laying a flat hand close on the end of the stump, and holding it so till an other standing by draw up the said plegents with the said bed smooth & close: then let a third man go on with the rowling, till the first rowler be spent, then if you will, draw on a Swines bladder, which is no evill course, for being once dry, you need not feare any fluxe of bloud, my selfe have used it and found it good, but your rowling must be very Artificiall in such a case, or all will not serve, for it exceedeth all medicines. And there is a second great care to be had in the holder, that he hold well; also remember ever in rowling to keep a hand to the end of the stump, thrusting up the medicines close, and keeping them so, excepting ever as the rowler passeth by to make way warily for it, and stay it again, and ever where you see the bloud springing out, there lay a slender dorsell of tow, and roule over it again, continuing rowling till the bloud appeare no more: The first dressing being ended, lay the party to bed with the stump high, and a pillow under it, appoint him a slender diet, namely, no flesh: let him have a comfortable Caudle for the first, if you see him weak; and afterwards Broths and Pannādons and light things, and in small quantitie. It shall not be amisse to defer the second dressing untill the forth day & no longer, onely visit the Patient daily and ease or take away some one rowler, or as you shal see cause. Moreover, in dismembring the legge, you are to understand that though the foot onely be corrupted, it is best to take off the leg some foure inches below the lower end of the rotule, or round bone of the knee, the paine is all one, and it is most profitable to the Patient, for a long stump were but troublesome. This worke of dismembring is best to be done in the morning, doe it not willingly the signe being in the place, neither the day of the full Moone, never take off any member in the joynt: yet *Petrus Pigerius* a late learned Writer affirmeth it safe and good of his own Practise: and Mr. *Richard Wood* a worthy Father in Chirurgery confesseth the same in small joynts to be good, but not in the knee. Note also it is convenient if the occasion of dismembring grow by reason of a Gangrene the bodie of the partie and spirits not wasted before with long sickneſſe, to let goe some reasonable quantitie of bloud in dismembring, because it is supposed to be venomous, but

The use of the Saw.

The manner of stitching the stump.

A Caution.

in a ſpent weak body, who hath had a long pining diſeaſe, preſerve his bloud and ſpirits as carefull as if they were thine own, and yet remembring this one rule, which all the *London* Hoſpitall Chirurgions hold, there is more hope in a weak ſpent body, then in a full body: note further, that if the legge be taken off above the knee, there is the more danger, alſo there is great care to be had to the great veine and artery, namely, that thou take them up, & pierce them thorow, and make ſtrong ligature about them, which muſt be ſpeedily done, if thou canſt do it: but at firſt I feare thou wilt miſſe, yet be not diſcouraged, nor ſtand too long to ſeek them, but go on with like hope: Alſo if the occaſion of diſmembring proceed of a Gangrene, by reaſon of an inward cauſe, it were requiſite to take the member off foure fingers above the Gangrene at the laſt, if the member will beare it, and let the Patient have ſome cordiall potion: furthermore in diſmembring, where there be two bones, as namely in the legge, it is not amiſſe to ſet the Saw firſt on the outward part of the legge, that both the bones might be cut at once, for the leſſe thou ſhalt ſhake the member, the better and the more eaſe to the Patient: moreover concerning the ſecond dreſſing, Mr. *Gall* teacheth this *unguent* following, if occaſion be, as a good remedy to ſwage paine and cauſe the Eskar to fall, but for my part, except paine did cauſe me, I ſhould never reſpect the haſting of the Esker to fall, for I am of opinion, as I have ſaid in other places, that it is frivolous to haſten the fall of any esker whatſoever, which esker was forced by cauſticke medicines, and yet I deny not this or the like *unguent* may be found to be of good uſe, to ſwage paine; therefore I have ſet it down, and it is as followeth, ℞ *Terebinthine* ʒij. *Butyri recentis* ʒiiij. *Cera* ʒiß. *Vng. Populeon* lib. ß. melt theſe together and it is made, then being warmed, dip plegents therein, and apply them; but in want of this *unguent* a good digeſtive of *Terebinthine* & the yolk of an egge is as good, *Emplaſtrum de minio* mollified with a little oyle of Roſes, *Vng. Baſilicum* or *Arceus* Liniment are likewiſe good remedies: the reſt of the cure differeth little from the ordinary cure of ulcers, onely a great care muſt be had that all your dreſſings be warme, and keepe the cold from the end of the ſtump as much as you can, and chiefely from the end of the bones, to which purpoſe warme oyle of Roſes daily applied on the ends thereof, will do well; further to foment it with a good *Lixivium*, wherein is ſtrong wine, is good after ſome fourteene daies, ſometimes alſo it will do well to make one dreſſing with *Aqua vitæ*, wherein a ſtupe hot wrung out of the ſame, may be warme applyed to the grief, and then warme clothes and convenient rowlings, and ſometimes alſo one dreſſing with dry lint, or of ſoft tow is likewiſe good, and ſometimes *unguentum mixtum, viz. Baſilicum & Aegyptiacum ana. partes æqual.*

The compoſition of M. Galles Vnguent, and the good uſe of it.

The defenſative Cataplaſme or ſtuffe often mentioned, is made of the ordinary reſtrictive powder preſcribed in the cheſt, mixed with the white of an egge and wine vineger: the ſtrongeſt reſtrictive of all is already ſet downe, but in ordinary fluxes in wounds Bole may ſerve very well. Thus much for this time touching diſmembring, being according to mine owne practiſe.

The compoſition of the Cataplaſme.

Of the Scurvy called in Latine Scorbutum.

The Preface.

Mariners most subject to the Scurvy.

THis lamentable diſeaſe, which hath ſo long and ſo fiercely aſſailed Saylers and Sea-men of all ſorts more then Land-men; It is ſtrange in ſo many ages paſt, that no one Chirurgion of our countrey men, hath out of his experience taken in hand ſincerely to ſet downe to poſterities, the true cauſes, ſignes and cure thereof, neither left any inſtructions, cæveats or experiences for the prevention or cure of the ſame, yet it may be ſome may ſay the cure thereof is common, and we have in our owne countrey here many excellent remedies generally knowne, as namely, Scurvy-graſſe, Horſe-Reddiſh roots, Naſturtia Aquatica, *Wormwood, Sorrell, and many other good meanes: the truth is we have ſo, but marke how farre they extend, only to the Cure of thoſe which live at home, or elſe it may be ſaid, they alſo helpe ſome Sea-men returned from farre, who by the onely naturall diſpoſition of the freſh aire and amendment of diet, nature her ſelfe in effect doth the Cure without other helps, as daily it is ſeene.*

This thing therefore being ſo, what ſhould I ſpend my time in teaching that Method, or thoſe medicines to the Chirurgions Mate, which will not be had at Sea, neither if they could be had, will ſuffice for the Cure thereof, where the diſeaſe raigneth fiercely?

This Treatiſe moſt concerneth Sea men.

Having therefore very ſmall time, I muſt conſtraine my ſelfe to go briefely to the buſineſſe in hand, namely, to enforme the Chirurgions Mate how hee ſhould demeane himſelf to comfort his Patients at Sea in that moſt dangerous diſeaſe, neither will I heere ſtrive to give the curious Reader other content then this, that if he like it not, let him amend it himſelfe, which I ſhould heartily rejoyce to ſee any good man doe, knowing mine owne weakneſſe. A learned Treatiſe befits not my Pen, and to declare thoſe good medicines, which cannot be had at Sea, is but time loſt.

What

What the Diſeaſe called the Scurvy is.

THE Scurvy is a diſeaſe of the ſpleene, whereby it is ſometimes wholly ſtopped, ſometimes onely diſtempered, ſometimes alſo appearing with hard Scyrros, ſwellings, beginning and ſhewing themſelves in divers parts of the body, but more particularly on the thighes and legges, cauſing them to ſeeme of a Leady colour, the ſharpneſſe of which infectious humor oft offendeth the mouth and gummes of the diſeaſed, and cauſeth the fleſh thereof to rot and ſtinke.

Definition of the Scurvy, and the nature thereof.

The names of the Diſeaſe.

THE Scurvy is called of ſome *Cachexia univerſalis*, of other *Scelerbe*, and of ſome *Stomacacen*, it is a Chronicall diſeaſe, not ſimple but compound of many other diſeaſes.

The divers appellations thereof.

The cauſes of the Diſeaſe.

FIrſt the Diſeaſe comes, as is ſaid, by obſtructions of the ſpleene, and by the thickneſſe of the humour, not the multitude.

Some judicious Writers doe affirme this ſickneſſe to come by the multitude of Melancholike humors gathered in *Vena Porta*, by which, it is ſaid, the Milt doth draw unto it Melancholly humours, and ſo tranſporteth it from the Miltinto the Ventricle.

But truly the cauſes of this diſeaſe are ſo infinite and unſearchable, as they farre paſſ my capacity to ſearch them all out; ſome men conſeive this diſeaſe hapeneth to ſea-men onely, through long being at ſea without touch of land, as it is ſeene in Eaſt India uoyages: our men have it betwixt *England*, and the Cape *de bon ſperanze*, as they terme it, and at their coming on the land there they preſently grow ſtrong againe, & are by the very freſh ayre and freſh food cured without much other helpe; and likewiſe twixt the Cape and the Indies, they are touched with it againe, and as aforeſayd the freſh aire of that land, the next they come on and good diet together, cureth them with ſmall phyſicall helps, and the ſame againe home-ward bound. The chiefe cauſe whereof is the continuance of ſalt diet, either fiſh or fleſh, as porke and the like, which is not to be avoyded at ſea, as I ſuppoſe by the wit of man; another cauſe is want of ſufficient nouriſhing food, and of ſweete water, and alſo for want of *Aqua vitæ*, wine, beere, or other good water to comfort and warme their ſtomackes, which by contrary windes men are too much incident unto in long voiages howſoevor the Marchants are carefull, provident, and bountifull in that point.

Aire and freſh food helpeth well this diſeaſe in Sea men.

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An other cauſe of this diſeaſe to the ordinarie ſort of poore men, is want of freſh apparell to ſhift them with, which indee amongſt poore Sailers, eſpecially a ſort of them that are careleſſe and lazie of diſpoſition is too frequent, partly alſo by the not keeping their apparell ſweete and dry, and the not cleanſing and keeping their Cabins ſweete, this alſo ingendreth and increaſeth the infection. Some charge Bisket as a cauſe of the Scurvie, but I am not of their opinion: Some ſay inordinate watchings are cauſe thereof: Some ſay extreame labour wanting due nouriſhment: Some alſo affirme cares and griefe to be ſome cauſe thereof, others affirme the very heate of the aire, resolving the ſpirits; but what ſhall I amplifie further? for it is alſo true thatthey which have all the helps which can be had for mony, and take asmuch care as men can deviſe are even by the evill diſpoſition of theaire, and the courſe of nature, ſtrook with a Scurvie, yea and die thereof at ſea and land both: yet this giveth no warrant to the Surgeon, orhis Mate to leave their duties unperformed, for the blouds of thoſe men which either by their wilfullneſſe or ſlouthfulneſſe periſh under their charge will ſurely be required at their hands.

But it is plaine that this griefe is a lazie foule diſeaſe with obſtructions of the liver, or ſpleene, or of both; as alſo it appeareth that the head is much diſeaſed, and that there is great obſtructions in the braine, for that the eyes not onely look evill coulored, but alſo the gummes putrifie, and the teeth grow looſe, and all the ſinewie parts of the body beare their part in the diſeaſe, for the ſhrinking and withering of the ſinewes with the great paines the party hath, declareth no leſſe.

Of the Scurvie or Scorbutum the ſignes.

THe ſignes of the Scurvie are many, as namely, a generall lazineſſe and evill diſpoſition of all the faculties and parts of the body, ſaving the ſtomacke and the appetite, which oftentimes is greater then ordinarie with them along time.

A diſcouloring of the skinne as if were fouler then ordinary, with ſpots darker coulered then the reſt, and ſomtimes alſo darkiſh blew ſpots.

A fever at ſea commonly ends in the Scurvie, wherefore by the way beware of too large purging, or phlebotomie, which increaſe oft the griefe, and make it incurable: I ſpeake this becauſe I have noted there is a fault in young Surgeons of forwardneſſe in taking too much bloud at Sea.

Alſo itching or aking of the limmes are ſignes of the griefe.

Sometimes the legges falling away, and drying the calves of the legges growing hard and drie, as alſo immoderate ſwellings of the legges

legges : alſo the legges and thighes diſcoloured into frekells, or ſpots of a durty browne ſad colour much like the colour of a gangrenated or mortified member.

Stinking of the breath.

Great obſtrnctions of the liver, or ſpleene, or both, and in the exercifing of their bodies their limmes, and their ſpirit failing them.

Shortneſſe and difficultie of breathing, eſpecially when they moove themſelves, but lying ſtill finde little griefe or paine.

Their eyes of a leady colour, or like darke violets.

Great ſwellings in the face, legges, and ouer all the body ; paleneſſe, or a foule pale colour in the face. Swellings of the gums, rottenneſſe of the ſame, with the iſſuing of much filthy bloud and other ſtinking corruption thence, looſeneſſe of the teeth: Alſo ſome are troubled with an extreame coſtiveneſſe that for 14 daies together they go not to ſtoole once, wherefore the Chirurgion is conſtrained with an Inſtrument to take out the excrements to avoide death, after which extreme coſtiveneſſe often followeth a great flux of bloud, and a painfull: alſo many have ſtoppings of the urine, or at the leaſt making leſſe water in two daies then the partie drinketh in one day.

A coldneſſe and ſtiffeneſſe of the ſinewy parts, chiefly of the legs.

Some alſo have their Muſcles, yea and ſinewes of their thighes, armes, and legges ſo waſted away that there ſeemeth to be left only the ſkin covering the bones.

Certaine ſignes of the Scurvie by the dead opened, diſcovered.

Alſo it is manifeſt that divers of thoſe which have been opened after death, have had their Livers utterly rotted.

Others have had their Livers ſwolne to an exceeding greatneſſe, ſome the Spleen extreamly ſwolne, others have been full of water, others their Lungs putrified & ſtunke whilſt they have lived, theſe and divers other ſignes, too many for to be mentioned here, do afflict poor Sea-men, which often are paſt mans help, in ſuch place and time as they happen, the Cure whereof reſteth only in the hands of the Almightie. And yet to any man of judgement it may ſeeme a wonder how a poore miſerable man, comming on Land from a long Voyage even at the point of death, namely, ſwolne ſometimes to an unreaſonable greatneſſe not able to lift a leg over a ſtraw, nor ſcarce to breath by reaſon of ſtrong obſtruction, yet in a few daies ſhall receive the fulneſſe of former health, yea with little or no medicine at all.

The Cure of this diſeaſe, as a famous Writer named *Iohannes Echthius* in a Treatiſe *De Scorbuto* affirmeth, conſiſteth chiefly in foure things, namely, in opening obſtructions, evacuating the offending humors, in altering the propertie of them, and in comforting and corroborating the parts late diſeaſed.

Remedies touching the Scurvie.

Iohannes Vierius another famous writer aſcribeth the whole cure of the Scurvie to the herbe Spoone-worte. One *Olivaras* a Sweden writer, in his fifteenth booke, and fiftie one Chapter, intreating of this griefe attributeth the whole cure thereof to be in *Abſinthio* or worm-wood namely, to drinke much of the infuſion thereof, and alſo of the ſalt of the ſame: and one chiefe part of the cure of the Scurvie (ſaith he) conſiſts in good diet, but the ſea-men are inioyned to that

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onely the Ship affordeth, which the better and ſounder their proviſions of victualls are, the more their men ſtand to health ; and the contrarie not onely bringeth many diſeaſes, but maketh the diſeaſes which happen very hard to be cured, therefore I may ſpare labour in writing what broths or herbs ſerue beſt where no freſh food can be gotten : the Surgeon aud his Mate muſt therefore, ſeeing he is at ſea deprived of one principall help in that cure, namely, freſh meat and good drinke, be diligent to call for ſuch comfortable things as are by the great care and bountie of the Marchants provided for ſick men, or thoſe which incline thereunto, whereof in each Shippe is a good proportion both of wine, ſugar, ſpices and other comfortable things, aud to ſee they have it in due time and meaſure: and likewiſe to complaine to the Governours if they be withheld from the ſame, or if any man abuſe himſelf by miſ-diet : yea and the Chirurgion ought morning and euening to ſeeke for weake and poore men in their Cabins, or ſo ſoone as they are miſſing at their meſſes to inquire for them, and to ſee their Cabins be ſweet, and their proviſions according, or to move and intreat the Maſter, or Governour of the Ship for redreſſe in ſuch caſes, for feare of a generall infection. And whereas the firſt part of this Cure is in the opening of obſtructions, it is therefore fit in the beginning of the grief to give a lenitive glyſter, then the next day if the partie be ſtrong open a veine, butbeware, as is ſaid, of taking too much bloud away at once, eſpecially where the Liver is weake or ſtopped, and where men want good nutriment, for many evils enſue thereby. The next day following his bleeding if he can beare it, and if that his diſeaſe be with a ſwelling or fulneſſe, give him a doſſe of the pills of Euphorbium or otherwiſe of pibula ruffi, or of Cambogia, and make him ſome comfortable ſpoone meate, ſuch as you can make at Sea; namely, an Oatmeale caudle would not be a miſſe of a little beere or wine, with the yolke of an egge, and a little Sugar made warme and given him to drinke, or any comfortable broath made with Currants and other fruit, or Spices moderately taken, or with Sugar, or as the Ship can afford, a Barley water for his ordinarie drink were not amiſſe, with ſome few drops of Cinamon water therein, and alſo ſome juyce or Syrupe of Lemons therein, or a few drops of oyle of Vitrioll, and ſome Sugar, and give him in his drinke by way of infuſion, dried Wormwood good ſtore, for it is very wholeſome.

The Chirurgions dutie in this diſeaſe at Sea.

I meane in the Kings ſervice, or of the Eaſt India Compane.

Further the Chirurgion or his Mate muſt not faile to perſwade the Governour or Purſer in all places where they touch in the Indies and may have it, to provide themſelues of juice of Oranges, limes, or lemons, & at *Banthame* of Tamarinds: Alſo ſometime though a man be well, a comfortable caudle made with ſome Wine, Spices, Sugar, and the yolk of an egge were very good ; for theſe are helps in that caſe as well to prevent the diſeaſe, as alſo to helpe it when it comes.

And further experience teacheth which I have oft found true, that where a diſeaſe moſt raigneth, even there God hath appointed the beſt remedies for the ſame grief, if it be his will they ſhould be diſcovered and uſed : and note for ſubſtance, the Lemmons, Limes, Tamarinds, Oranges, and other choice of good helps in the Indies which you ſhall

The excellencie of the juyce of Lemons, Limes, Oranges, and Tamarinds.

ſhall finde there do farre exceede any that can be carried thither from England, and yet there is a good quantitie of Juice of Lemmons ſent in each ſhip out of England by the great care of the Marchants, and intended onely for the reliefe of every poore man in his neede, which is an admirable comfort to poore men in that diſeaſe: alſo I finde we have many good things that heale the Scurvy well at land, but the Sea Chirurgeon ſhall do little good at Sea with them, neither will they indure. The uſe of the juyce of Lemmons is a precious medicine and well tried, being ſound and good, let it have the chiefe place, for it will deſerve it, the uſe whereof is: It is to be taken each morning, two or three ſpoonfuls, and faſt after it two houres, & if you adde one ſpoonfull of *Aquavitæ* thereto to a cold ſtomack, it is the better. Alſo if you take a little thereof at night it is good to mixe therewith ſome ſugar, or to take of the ſyrup thereof is not amiſſe. Further note it is good to be put into each purge you give in that diſeaſe. Some Chirurgeons alſo give of this juice daily to the men in health as a preſervative, which courſe is good if they have ſtore, otherwiſe it were beſt to keep it for need. I dare not write how good a ſauce it is at meat, leaſt the chiefe in the ſhips waſte it in the great Cabins to ſave vineger. In want whereof uſe the juice of Limes, Oranges, or Citrons, or the pulpe of Tamarinds: and in want of all theſe uſe oyle of Vitrioll as many drops as may make a cup of beere, water or rather wine if it may be had, onely a very little as it were ſower, to which you may alſo adde ſugar if you pleaſe, or ſome ſyrups, according to your ſtore & the neceſſitie of that diſeaſe, for of my experience I can affirme that good oyle of Vitrioll is an eſpeciall good medicine in the cure of the Scurvy, as alſo in many other griefes, the which in another place is noted. Further a decoction of Biſket & therein Almonds ground, adding Cinamon and Roſe water a little, and ſome ſugar, were very comfortable now and then to be taken to refreſh the ſtomack. And as touching the Tamarinds brought from the Indies they are to be eaten of themſelves as the ſubſtance of them is, namely to eat them as you would prunes, and being made into conſerves, eat them as other Conſerves, on the point of a knife ſucking out the ſubſtance, and putting forth the ſtalkes or ſtones thereof; ſome diſſolve them in wine or water, and work out the ſubſtance of them therein, and caſt away the reſt, taking onely that which is pure: one may uſe this medicine ſo oft as he pleaſe without danger or harme, onely if he feare a flux of the belly, or have a weakeneſſe in the reines, let him not eat too much of the Tamarinds. Alſo the Electuary *Diatrionpiperion* given each morning a little on the point of a knife faſting, and laſt, namely at the party his going to bed, is a great preſervative; for it doth warme & corroborate the ſtomack, and preſerveth from the Scurvy, and is very comfortable to be given to any one that is diſeaſed with the ſame, or ſubject thereto. And the *Theriaca Diateſſeron* is yet better, for it hath an eſpeciall vertue in curing that diſeaſe. Alſo *Venice Treakle*, *Mithridate*, and *London Treakle* preſerve well from this diſeaſe daily taken faſting, and ſo doth conſerve of Roſes and Berberies mixed with a little oyle of Vitrioll, and given on the point of a knife.

The Marchants care for Seamen.

Land medicines for the Scurvy bad Sea medicines.

The juice of Lemmons a good preſervative.

Tamarinds muſt be uſed ſparingly if a flux be feared.

Elect. Diatrionpiperion.

Greene Ginger is alſo very good to comfort the ſtomack, and ſo are all ſorts of *Myrabolans* Condite, and alſo all ſorts of ſtrong Cordiall waters, but chiefly good *Roſaſolis* and good wormwood water, yea and very good *Aquavitæ* helpeth well, Currants and Reyſons of the Sun are likewiſe very good.

Alſo all kinds of Spices moderately taken are good, and ſo is good wine a very good preſerver of the body from this diſeaſe, with alſo the continuance of freſh diet, which is hard to be gotten at ſea, the exceſſe of which good things is as dangerous.

The principall Laxative medicine which I would adviſe in this caſe is pills of *Euphorbium* wherewith the body being ſwolne and watery, you may at your pleaſure make evacuation thereof: theſe purge alſo by urine very well the doſſe being ʒß, or at the moſt ʒij. Theſe are the fitter for that diſeaſe, becauſe they purge not alone water, but alſo by their great warmth, they comfort and warme the ſtomack and intralls.

A caveat for the doſe.

Theſe I adviſe the Chirurgions mate to uſe, as it is ſaid, where the body aboundeth with overmuch cold and crude humiditie, but let your doſſe alwayes reſpect the ſtrength of the patient, for any ſtrong purging is not good in the Scurvy: all ſudden and ſtrong evacuations are to be avoided. Alſo *Aquilla* Laxative is a very good purge in this caſe, namely eight or tenne graines thereof taken in a cuu of wine. It cureth alſo all wormes of the body, and killeth them whereſoever they be. But if the ſtomack onely be oppreſſed with the griefe in this diſeaſe, I firſt give a doſe of pills called *Pillule Ruffi*, namely ʒj: you ſhall finde them to be very good.

Note further, that if any doſe or any whole maſſe of pils in the Cheſt, ſuch time as you would adminiſter them be growne too hard, then you may diſſolve them with any ſyrup you have, or with good honey a very little, namely one onely drop will ſerve to diſſolve one doſe at once, if the maſſe proove too liquid, you may roll it in ſome of the *Pulvis Arthreticus* till it be hard enough. Alſo the moderate uſe of Verjuice, Vineger, or Oxymel hath been found very good in this caſe.

How to compoſe them in a fit conſiſtence if they be over-ſoft.

Furthermore, if you ſee cauſe, certaine dayes after you have given of any your former Laxatives, you may give a ſweat to the patient in his bed, namely you may give him a ſcruple of *Mithridate*, *Venice Treakle*, or *London Treakle* or *Diateſſeron*, and mixe therewith if you have it eight grains of the *Aurū vitæ Diaphoretice*, & being but ordinarily covered, he ſhall ſweat ſufficiently if he ſtirre not too much. Alſo the ſweating in moiſt bathes I confeſſe to be good medicines in this caſe, though not well to be performed at Sea for the ordinary men. And whereas one accident dangerous in this diſeaſe is extreme Coſtiveneſſe as is mentioned, with alſo ſtopping of Urine: the remedies for the Coſtiveneſſe, is firſt that you attempt to moove the belly by a lenitive glyſter as is ſaid, made rather of a ſlimy decoction or medicine which might leave no ſharpe Aſtringent or deſicative qualitie behind it, yea though it purge not much, for the ſharp Purgers after their working cauſe often a more Coſtiveneſſe then was before, or by their

To ſweat is an other ſingular remedie. Meanes to procure ſweat.

their violence cauſe a weakneſſe in the ſtomack and intrals, whence followeth a flux, wherefore for glyſters at Sea in great Coſtiveneſſe, where the Apothecaries ſhop and Cheape-ſide is not at hand, make a ſlimy decoction of *Althea* rootes or Comfery rootes, or in want thereof, of Linſeeds and Fenogreek bruiſed, of each ℥ß: in want thereof, of Bran ℥ij. to the decoction being ſtrained, adde of *ſpecies Hiera Pigra* ℥ij. of ſalt halfe a ſpoonfull, of honey as much, of oyle two ſpoonfuls: all theſe put togerher, let the decoction mentioned be ſo fitted that all may be but one wine pint, and adminiſter it with the Siring, being of a juſt temper in warmth, but if you intend not to have it purge much, leave out the *ſpecies Hiera Pigra*, and it will giue 2. or 3. ſtooles. You may for an ordinary glyſter well alſo take one quart of the broth from the beeſe kettle, adding thereto of Linſeed ℥ij. *comfry* roots and March mallow roots if they may be had, a ſmall quantitie of Aniſeed and fennelſeed, *ana* ℥ij. boyle theſe halfe an houre, then adde honey and common oyle of each a ſpoonefull, and give one wine pint of this for a glyſter: but if you ſee it work not but come away without excrement, the former recited will doe well, or make another ſtronger, namely *ad colaquintida* ℥ij. in the beginning of the decoction to the aforeſaid decoction, provided there be no inflamation in *Longanum*, or *inteſtinum rectum*, nor any excoriation, which by the patient his complaint is known: this decoction being boyled and ready to be adminiſtred, you may yet adde of the *ſpecies Hiera* ℥ij. thereto, or of the *Pulvis Arthreticus* ℥j. rather, for it inflameth not, it were beſt in my opinion to ſtrive in this diſeaſe by glyſters to give but one or two ſtooles at one time, for ſharpe glyſters offend much. Therfore though I ſhew what you may doe, yet be well adviſed in doing of it. Alſo of pills of *Euphorbium*, have a care you give them not where there is an inflamation or inward heate in the guts, in ſuch a caſe, the *Aquilla Laxativa* will be a better medicine, which will both temper the inward heate and help to heale the intralls, and yet will purge him well, and doth not binde him againe preſently, and provoketh alſo urine very well, for *Aquilla Laxativa* will often cauſe naturall looſeneſſe, certaine dayes after the taking thereof, and will purge water very much both by ſtoole and urine: and becauſe as is ſaid, extreme coſtivenes is great hurt to the body, the Chirurgion muſt by his beſt care to the patient, ſeek to prevent it, both by teaching him to doe his beſt for his owne health, and to amend the ſame by obſerving good cuſtomes and diet: by cuſtomes, namely that he faile not daily, once a day at the leaſt to offer himſelfe to ſtoole, and doe his beſt to urge ſome excrement to come, and ſomewhat to force his body thereunto if occaſion be, and to keep one and the ſame houre daily as neer as he can: I know by proofe it helpeth much, and for diet to uſe alſo as neer as he can thoſe things which he findeth procure an inward ſlipperineſſe and looſenes in the guts, peaſe, oatemeale, and rice do ſomewhat thereunto, provided they be very well boyled, and the adding currrents thereto is the better, and oyle and butter are good helpes, but at land where it may be had, all kinds of freſh diet almoſt are are good in that caſe, for by the leaving onely Sea diet, the body refreſheth it ſelfe ſuddenly

How to make a glyſter in caſe of neceſſitie for the Scurvy.

A ſpeciall obſervation in giving theſe aforeſaid glyſters.

For heate in the Inteſtines uſe Aquilla Laxativa.

A caution.

The third rule ceaſeth, the Mariners on ſhore.

ſuddenly through benefit of nature and the freſh aire, and eaſily becometh naturally looſe, and then the difficulty is ended. The eating of East India Tamarinds is likewiſe a good thing in that caſe.

What I have written here plainly, touching mean and ſimple glyſters; I would not be miſtaken, as if I did it out of ignorance or diſdaine of better medicines, for I were worſe then fooliſh if I would reject, detract or diſſwade from the good uſe of decoctions of hearbes, ſeedes, &c. with the additions of Electuaries, Laxative Syrups and the like which I have in daily uſe at home upon each juſt occaſion: yet many of the ancient Artiſts of worthy memory which I could rehearſe, have in former ages uſed for glyſters onely water and ſalt with oyle, and ſome others have added honey, and it is manifeſt that new milk alone is a good comfortable glyſter with the yolke of an egge, and a little courſe ſugar added.

And you may alſo many times ſave a labour of giving a glyſter by a ſuppoſitory, which is either to be made of a long peece of Allum ſcraped ſmooth, or of a candles end, or of a piece of hard ſope, or of honey and ſalt ſodden till it be ſo hard that it will break being cold, which being yet hot may be rolled and made up of the greatneſſe of a finger, and adminiſtred: of any of theſe, I ſay, you may make a ſuppoſitory as long and big as a finger or leſſe, and thruſt it up into *Ano*, and let the partie keep this medicine one houre at the leaſt in his body (if he poſſibly can.) Further note this generall rule concerning Glyſters, let a Glyſter never exceed the quantitie of one wine pint, let it rather want one quarter, eſpecially when you give it to a coſtive body, or a full body, he ſhall be much the abler and the willinger to keep it the juſt time. Further beware it be not too hot nor too cold, for the guts are tender parts, ſo hot as piſſe new made, or a very little rather warmer is the true temper. But if you perceive the *Inteſtinum rectum* or Arſe-gut, to be excoriated or inflamed, in ſuch a caſe uſe no ſalt, nor ſalt broathes, nor ſtrong Laxatives, as *Euphorbium, Agaricum, Hiera Pigra, Coloquintida*, or the like. If you finde the *Longanum* or Arſe-gut to be clung, or hard ſtopped with excrement, you may put a ſmall greaſie or oily clout on the end of your glyſter-pipe onely over the holes thereof, when you put it into the body, and thruſt it into the head of the pipe, then draw back a little your hand and deliver in your medicine, and if you ſee cauſe, and that it will not eaſily diliver, force it ſomewhat. Alſo when your medicine is all in, and that you would draw out your inſtrument again, do it quickly, and let the party turne him on his back, and he ſhall keep the medicine in the better. In caſes of excoriations or inflamations of the intrailes, in Glyſters uſe Deere ſuet ℥ij. for one glyſter, & in want thereof, *Axungia ovini vel porcini*, I meane ſheepe or ſwins fat, and let the decoction whereof the glyſter is made, be onely of branne, and without any other addition, and give now and then ſuch a glyſter, I mean once a day, for two or three daies, after you may adde thereto ſome ſmall aſtringent medicines, as *Succus Acatiæ* ℥j. or Gales ʒij. or Baluſtians ℥ß. or Myrabolans, ʒiij. even as you ſee cauſe, for theſe helpe to heale the guts well.

The quantitie of a glyſter to be regarded.

The true temper of the glyſte to be adminiſtred.

How to deliver a glyſter if the Longanum *be ſtopped.*

A glyſter for inflamation and excoriation in the guts.

Of

Of Lotions.

CONcerning Lotions to the mouth and throat of the diſeaſed, they muſt be ſharpe and very aſtringent, I meane them eſpecially which concerne the cure of the gummes in the Scurvie: if the gums therefore be ſwolne, that they hange over the teeth, ſtink, or be putrified, they muſt be very well lancēd or ſcarified, and after hard rubbed with a linen or wollen cloth, wrapped about the fore finger and wet in ſome ſtrong reſtringent or Stiptick Lotion very hot, as is the ordinary Lotion of Allum, Honey and Hearbs, adding thereto a double quantitie of Allum, and a little ſalt-peeter, or gun-powder for a neede is good, and if it be not ſufficiently ſtrong, make a ſtronger decoctiō of coperas in water, adding ſalt peeter with a little honey, if you have it, or *Mel Roſarum*, with alſo a little ſtrong vineger, you may alſo put oyle of Vitrioll a little thereto, but that it hath one evill quality in hurting and ſoftning the teeth, wherefore beware of it, and if you uſe it, do but onely touch the gummes with it once and no more, and it will do much good: and if you pleaſe, alſo *Aqua Fallopie* is good, but becauſe it is made with ſublimed Mercurie, it is not without danger, and is alſo of a loathſome taſte and ſmell, and offendeth the ſtomack very much, but I know it to be held by many for a great ſecret, but as for my ſelfe for reaſons rehearſed, I uſe it not but adviſe rather that which is ſtrong either of the Coperas, Allum, or Salt-peeter, for they hurt not the teeth at all as doth the oyle of Vitrioll, and ſo doth *Aqua fortis* very much, or you may make a Lotion thus: ℞ Coperas, white, green or blew ℥ij. water one pound or there about, Honey one ſpoonfull, boyle theſe to the conſumption of one third or halfe, then take of *Lapis Medicamentoſus*, or ſalt-peeter ℥ß, and if you have no honey, take Sugar, or juyce of Licorice, or Licorice boyled therein for to make it pleaſant in taſte, or without for a neede you may well uſe it, or the *Lapis Medicamentoſus* diſſolved into faire water, maketh an excellent Lotion for the putrified gums.

The cure of the gums much ſwolne, ſtinking and putrified.

Touching good outward remedies for the cure of this greeſe, bathes, fomentations, with alſo good oyles, unguents, cerates, cataplaſmes, or emplaſters, are each neceſſary in their due times, provided they be of comfortable ingredients, namely thoſe which miniſter warmth and nouriſhment to the diſeaſed parts, and open the pores obſtructed, all ſuch, I ſay, are moſt fit, provided they be alwaies applyed very warme, and the partie be laid and kept warme upon it. Further if it be a ſwolne member, then this following bathe to foment the member, will be good, namely a *Lixivium* made of freſh water and aſhes, and being onely but reaſonable ſharpe, (for too ſharpe of the aſhes will over heat, yea and excoriate) this done and cleered, boile ſome hot hearbes, flowers and ſeedes fitting therein, ſuch are camomile, Mellilote, Dill, Wormewood, Balme, Roſemary, Thyme, Sage, Bay-leaves, Bay-berries, Juniper-berries, Annis-ſeede, Fennell, Coriander, Carraway, Dill ſeedes, or the like: theſe ingredients, or thoſe of them which may be had uſe, & let them be boyled a little therein, and either ſtupes of woollen or linen clothes wet therein

Outward remedies for the Scurvy in generall.

If ſwelling grow in any part a Lixivium is good.

Of what the Lixivium is made.

or

or put the ingredients into bagges after the decoction is made with them, and the place well fomented therewith, and ſo laid to ſweat with ſome of the hearbs in the ſame bagges well wrung out and hot applied, till the next dreſſing. But if the diſeaſe proceed with ſtiffenes and hardneſſe of the ſinews, then forbear the Lixivium, I mean put no aſhes thereto, and make the decoction of the mentioned ingredients, boyled in the broth of the beef-ketle, in wine, beer, or water for a need, adding ſome ſalt, and likewiſe, if you have it, Linſeed oyl, neats-foot oyle, ſheeps-foot oyle, or oyle of Almonds, oyle of Camomile, Dill or earth-worms, of Bays, of Lillies or ſome one of them.

A bath of blood very good.

Alſo where you can have it, a good bath of the blood of beaſts, either cows, horſes, aſſes, goats, or ſheeps blood is exceeding good,

The manner how to bathe in this bath of blood.

namely, to put the legges of the patient, yea and his bodie too, if it may be, into a tub made fitting, and the blood kept warm, part thereof being ſtill kept hot on the fire, and renew therewith the bath ſtill, as it cooleth with the warm blood, for ſome reaſonable time, this reſtoreth and comforteth mightily the decayed ſpirits. Milk of it ſelf is

A bath of milk.

alſo good to be uſed in that kinde where it may be had.

Of Oyls thereto.

Oyls good outward helps, and what they be.

OYls good to anoint, which are *Oleum Chamamillæ, Laurini, Anethi* or *Lumbricorum*, with a little Spike oyl, oyl of Turpentine, oyl of Nutmegs preſſed out, oyl of Peeter, oyl of Exitor or oyl of Juniper, or one of the ſame mixed with them, or ſome good *Aqua vitæ*, and to uſe ſtrong frication with warm ſoft hands long continued, helpeth much.

Much and hard frication very beneficiall.

Vnguents.

What Vnguents are herein helpfull.

GOod Unguents to help theſe griefs, in my opinion, are everie warm and comforting unguent in uſe in the Chirurgeons cheſt, but I have had eſpeciall triall of an Unguent, the compoſition whereof ſhall be hereafter deſcribed, which is named *Contra Scorbutum*, as alſo of the *Vnguentum Populeon*, I mean the ſame compoſition *Valerius Cordus* hath deſcribed, for I finde it to be very good: but you may well ſay, how doth he contradict himſelf, which even now adviſeth warming Unguents, and preſently reciteth *Populeon* for one, which is known to be cold, but though I have haſte, let me I pray thee anſwer for my ſelf in that one point, which I know to be a principall *Arcanum* in healing not looked into: many a medicine hath a ſeeming ſhew to be cold, and yet doth contrarie effects, witneſſe Quickſilver, juyce of Lemmons, Vitrioll, oyl of Vitrioll, Salt peeter, Allum, Sorrell, and divers others which I could recite, all which may eaſily be proved, either hot or cold, by their ſeverall ſtrong operations and effects which they perform: as for example, to begin with Quickſilver, it is affirmed to be extreme cold of infinite writers, and his repercuſſive quality ſheweth the ſame, as alſo in repelling and cooleth hot tumors: with alſo the varietie of cold diſeaſes and contractions Podagricall

Two principall Vnguents of ſoveraigne vertue againſt the Scurvy.

Many medicines in ſhew that which in effect they are not.

What Quickſilver is in ſhew and in effect.

and

and Chirurgicall, procured thereby to divers Artificers which work much therewith, as namely to Guilders, Foilers of looking-glaſſes, and the like Tradeſ-men, which ſheweth the ſame to be cold. It alſo ſheweth it ſelf to be hot diverſly, as namely in that it is ſo extreame ſubtill and penetrative, ſo inviſible to enter the body (*per poros cutis*) and being in the bodie, ſo volatill and buſie, ſo cauſtick and corroſive, ſo extreame Laxative, ſo diaphoretick, ſo diaveritick, ſo mundificative, ſo incarnative and ſo ſigillative or ſiccatrizing, as the like medicine by the art or wit of man was never found out: juyce of Lemmons was ever reputed a cold medicine, preſcribed and given daily by the Phyſicians in burning and peſtilentiall fevers, and that with good reaſon, and good ſucceſſe even to this day, and yet to that notable, and cold, and terrible diſeaſe of the Scurvy, how excellent hath it been approved, how then in theſe two recited medicines holds the old Axiom, *Similia conſervantur ſimilibus & contraria contrariorum remedia ſunt?* even as true as *vox populi vox Dei*, or pepper is hot in the mouth and cold in the maw; if I would deſire truly to cool and temper the boyling of the blood inwardly, which I my ſelf would take, yea were it upon the ſafeguard of my own life, I would take five or ſix drops of good oyl of Vitrioll in a draught of fair water with a little ſugar, a drop or two of Roſe-water and as much wine vineger, mark well my words if thou knoweſt not theſe medicines they are worth knowing, or ℥ j of ſaltniter, which is alſo called *Lapis prunella*, in the like liquor, and for want of the ſugar, Roſe-water or vineger of it ſelf, or with the water onely for a need: I have often proved them ſo true coolers that they have ſtayed the Hemoragie or bleeding at the noſe, the latter whereof ſhall ſeldome fail if you by outward means proceed rationally by applying to the forehead cold and aſtringent things, as alſo to the nape of the neck: alſo a large ſponge wet in cold water and applied to his ſecret parts is good, or let him hold or put his members into a boul of cold water, alſo binding hard the arms and legges is very good to ſtay bleeding at the noſe; and one of the ſureſt remedies but laſt to be attempted in Hemoragie or bleeding at the noſe, is to open a vein in the arm on the ſame ſide. Thus it may plainly appear that two of the recited medicines are cold: now to prove thoſe two hot, I will not ſpend many words, call to minde that of Vitrioll and Salt-peeter *Aqua fortis* is made, which by his heat and penetrating force, teareth to pieces and diſſolveth the ſtrongeſt metals preſently, devoureth and utterly deſtroyeth cloths woollen and linen, or put but good oyl of Vitrioll into an ulcer, or to the whole skinne, and tell me half an hour after what a cold fever the patient had: or put fire to crude ſalt niter alone and mark the concluſion, namely, it will prove it ſelf wholly combuſtible, and therefore hot: as I ſuppoſe likewiſe the hearbe Sorrell, it is a cold hearbe eſteemed at leaſt in the firſt if not in the ſecond degree, and yet conſider well if you ſeek quickly to ripen and bring to ſuppuration an Apoſtume, you ſhall finde it a moſt excellent ſpeedie remedie: I conceive therefore that it is not by his coldneſſe it doth that effect, for that is not common nor rationall, and therefore to conclude my degreſſion as

The different vertue of the juyce of lemmons.

A ſingular and approved good medicine to temper the boiling of blood.

To ſtop bleeding at noſe good rules.

What oppoſite vertues Vitriol, Salt-peter, and aqua fortis have.

The like in Salt-niter.

As alſo like different operation in Sorrell.

Ozwaldus

A saying of Oswaldus Crollius.

Oswaldus Crollius, a late learned writer saith in his Preface Admonitorie to his book called *Bazillica Chymica Simplicium: qualitates non semper considerandæ sed earum arcana, The simple and apparant qualities of Medicines are not alwayes alone to be respected, but rather their mysteries or hidden vertues.*

Gods providence to be observed in Phisikes operation.

Thus much in defence of the temperament of some private Medicines working strange and severall effects, wherein the mysteries of our God in his divine providence farre do excel whatsoever things else, shewing mans wisedome meer foolishnesse, wherefore to him for evermore be praise. Amen.

Where the unguents are to be applied.

The warm Unguents are to be used where you see apparant need by reason of the coldnesse of the part, the Populeon where there is pain though no manifest signe of a hot disease appear, and doubtlesse it will work good effect to your comfort, yea though you think the disease be not cold, and therefore need a more warming Medicine, *Vnguentum Dialthea* is one of the best Unguents, and *Martiatum* is another, *Oleum laurini* is also good, and if you list to adde some more califying oyls, take of oyl of Speek, of Terbinthine, or Petreolum, but good warm application and strong frication is the means, and warm keeping. Of medicines to be applied to the Spleen, Liver, or stomack outwardly, the unguent *pectorale* described is very good warm to anoint those parts, whose description with the rest you shall finde, and to lay also over the whole part agrieved the *Emplastrum mellilote prosplene*, whose description is expressed in the Dispensatory, for want of which plaster *Emplastrum cumini* is good. Also the well anointing with oyl of Nutmegges, or Mace adding a few drops of oyl of Cloves *Chymicall* doth much comfort, keeping the grieved part extraordinarie warm.

What outward medicines the liver and stomack require.

Of Vlcers in those that have the Scurvie.

THe *Vlcers* which happen to them which have this disease are many wayes different from the generall forms and differences of ordinarie ulcers in bodies not touched with this disease, the severall definitions of all which I have here no time to amplifie. But because this disease hath two generall and principall differences of appearance, namely, some men diseased with the Scurvie are swolne exceedingly, even as in the dropsie: & others have their outward limbes withered, consumed, and dried up, their sinews shrunk and grown hard, though the ulcers in the one and the other should be like in shew, yet doubtlesse the healing of these Ulcers will be found very much different, wherefore for one generall note remember that the Ulcers in the full and hydropicall bodies will require more desiccative

Two strange effects the Scurvie causeth, the first an Hydropicall inflation of the whole body.

A second is consumption of the body.

ſiccative medicines, as namely the *Vnguentum diapompholigos, de minio, Vnguentum album Camphoratum* and the like: And the other kinde the *Vnguentum baſilicon incarnativum*, and the *Arceus* liniment and the like to thoſe. Some Sea-Chirurgions have commended to me of their practiſe the uſe of *Veſicatory* medicines; namely, *Cantharides* in painfull ſwolne limmes, which I leave to the practiſe of others further to commend the ſame, my ſelfe having received it as a great ſecret from a Chirurgion my friend, but made no ſuch experiences thereof my ſelfe.

Experience the beſt praiſer.

And further touching the Cure of Ulcers in this diſeaſe untill the obſtructions of the Liver and Spleene be removed, thoſe Ulcers give no place to good healing; wherefore ſince notwithſtanding they muſt be carefully attended for conſcience ſake, I adviſe that all ſharpe and violent medicines be ſhunned, and all ſoft and anodine things applied that you know or can learne, provided they be warrantable medicines, for otherwiſe they not only ſtrive againſt a ſtreame, but put your Patient to needleſſe diſquiet, and thereby increaſe this diſeaſe.

Obſtructions of the Liver muſt be removed before the Vlcers can be cured.

A Caveat.

I have here in part ſhewed the Chirurgions Mate my opinion concerning the Cure of the Scurvie, to which he may joyne his owne and other mens experiences, where he can gaine inſtructions worth following, together with his own daily practiſe, which, if he be wiſe, he may likewiſe ſet down; onely let me adviſe the young practitioner that ſometimes (as my ſelfe have experienced) the Scurvy produceth ſuch extreame coſtiveneſſe, as neither *ſuppoſitory*, glyſter, or any Laxative medicine whatſoever will availe, but that the excrements muſt be drawne out of the *Longanum*, or the *Inteſtinum rectum* with an inſtrument, for they will be like dry lumps of clay, or hard Sheeps treckles, as they terme them, the which inſtrument I have invented and is an eaſie and a fit inſtrument, called by me *Spatula Mundani*, which inſtrument being a little warmed, is then to be anointed with oyle, and ſo gently put into *Ano* to draw out the excrements, and to make way for the glyſter-pipe, which, when it hath cleanſed ſome foure inches, or five inches, you may aſſay by a glyſter againe. Furthermore it ſometime happeneth, that by the long remaining of the excrements in the *Longanum*, the gut is either excoriated, or at the leaſt inflamed. In ſuch a caſe you may take notice that you forbeare ſalt, as is ſaid, and all ſharpe heating things in your glyſters, as *Coloquintida, Hiera pigra, Scammony, Agaricum, Euphorbium*, and the like; and content your ſelf to adminiſter for the firſt, a glyſter made onely of a decoction of Bran alone, or of Mallowes, or of Comfry roots ſmall cut, or Linſeeds bruiſed with ℥ij. of Deer ſuet, *Vnguentum Diapompholigos*, or as much *populeon* or *Vnguentum album*, as is ſaid, and rather if you finde that helpe not, give a doſe of *Aquilla Laxativa* which will purge eaſily without any offence at all, and help to heale the gut, and this courſe is better then by ſharpe glyſters to purge, which will offend the gut, and after the ſaid purge it will not be amiſſe if you ſee occaſion, to give a like glyſter again as before, and note that if in the glyſter ſome of the

How to help the body extremely bound through the Scurvy.

What muſt be done for the cure thereof

A glyſter.

Aquilla Laxativa.

The aforeſaid glyſter repeated.

ingredients ſhould bee wanting, you may never the leſſe proceed with the reſt with good profit, provided if you have better you uſe them, neither doe I here intend ſtrictly to enjoyne the Chirurgions Mate to my rule, but if he have better, let him uſe it, and forget mine in the name of God.

The cure if the body be conſumed by the Scurvy.

Moreover, if the Patient his diſeaſe be in the forme of a Conſumption, the body being dried up as it were, or with ſhrinking of the Sinewes: then if you intend to purge the party, give him pills called *Pilulæ Ruffi* for the firſt remedie, but if he complaine much of paines in his joynts, then a doſe of *Pulvis Arthreticus* will do beſt, or purge him with *Aquilla Laxativa*, it is alſo a generall good purge at all times, and almoſt in all caſes, though beſt in the French Pox and Dropſie. And though I have formerly touched the formes of ſome Cataplaſmes, yet for that there hath been much good found in the application of this Cataplaſme made, being of warming, comforting and anodine medicines, I thought good to note it, which is as followeth. ℞ the flowers of Cammomil, Mellilot flowers, Wormwood alſo Hipericon & Balm, of each M.j, Bran M.j.ij. Linſeed, Fenigreek, of each ℥ß. Comfrey and Mallow roots, of each ℥ß, Barley meale ℥ij. bruiſe the hearbs, and boyle theſe in milke, beere, or water, then adde of oyle of Camomill, Dialthæ, oyle of Dill, of each ℥ij, *Axungiæ* ℥ij, apply it warme: note likewiſe, that where you have not all theſe recited ingredients, yet that you take ſo many of them as you have, and try their force, for if a few will do the buſineſſe, as ſometimes it will, it were vaine and waſte to uſe many.

Wherein the vertue of Aquilla Laxativa conſiſts.

Cataplaſmes excellent in this caſe.

How to make the Cataplaſme.

Sometimes for a need you may make good uſe of a decoction of Bisket in Wine or Beere, which warme applied will wonderfully comfort a weake limme, and aſſwage the paine, for ſometimes the very good warmth with good ligature availeth much: fattie things muſt be forborne in ſome caſes; namely, when the paine is ſharp and quick, leaſt you cauſe putrifaction and ſuppuration of humours againſt your will, yea and rather uſe Acetoſous medicines, and Anodine ſometime, alſo muſslagy medicines are to be forborne, for like reaſons: in all which caſes, conferre with other Writers: aske counſell of thy Elders, and keepe ever in writing thy owne good obſervations from time to time.

Sowre things better then fattie in this diſeaſe

Counſell directing what to be done if meanes may be had.

A word or two to conclude for the young Chirurgions concerning the cure of this diſeaſe, when they come upon a coaſt where they may have ſome helps, let them uſe ſome one of theſe following, they ſhall finde them good upon triall.

℞: *Abſinthia, Iuniper Berries* of each M.j, Goats milke, lib.4. boyle this together, the hearbs and berries well bruiſed till a third part be conſumed, then ſtraine it, and adde of Saffron in pouder ʒj. ſtirre it on the fire till it have boyled a very little, and ſet it to cleere, and give the ſicke thereof three times a day at the leaſt, *viz.* morning, noone, and night, this drinke hath cured many in great diſtreſſe: if you have no Goats milke, Sheeps milke, or for a need, Cowes milke will ſerve.

Another.

Another.

℞ Water Creſſes, Sorrell, and Wormewood, of each one handfull, bruiſe them well, and boyle them in three quarts of Whey or new Milk, and adde thereto a little Sugar and Saffron, and let the ſicke drink thereof as often as he will. *Another good drinke.*

Whey drunken of it ſelfe is very good, but better if the juyces of Scurvy-graſſe, Sorrell, Coclaria, Wormwood, Watercreſſes, the greater or leſſer ſort, Brooklime, Scordium, Spoonwort, water Jermander, or of ſome of them be mixed therewith, for that they are all approoved good medicines, and doubtleſſe ſome of them are to be found in other Countries and coaſts, as well as in *England*. *Whey ſodden with divers hearbs very profitable.*

Alſo an infuſion or gentle decoction of the roots of the hearb *Rhaphanæ ſilveſtris*, or Horſe-reddiſh in vineger, or mixed with beere and drunk, is exceeding good, or eaten of it ſelf with bread.

Bay-berries, and Juniper-berries are alſo wholſome boyled in Whey againſt this diſeaſe, for they open obſtructions: likewiſe from theſe former hearbs may many other good compound medicines be made. *Bay-berries alſo and Iuniper-berries are good.*

And generally note, that bitter and ſower medicines prevaile moſt to the cure of this griefe, amongſt which ſower medicines you have that are approved good thereto, theſe that follow as chiefe, juyce of Lemons, of Limes, Citrons, and Oranges. *Sowre medicines very good.*

Oyle of Vitriol, oyle of Sulphur, ſpirit of Salt, vineger of Wine, and the ſpirit thereof: alſo the Syrups thereof, ſo many as are in uſe, and the rather, for that they cut away the tough and groſſe flegme, and have power alſo to open obſtructions. In like manner, the juyce or pulpe of Tamarinds hath a great acetoſitie, and is found a precious remedy againſt this diſeaſe, the uſe whereof is noted already.

Alſo note further that there are few diſeaſes at Sea happeneth to Sea-men, but the Scurvy hath a part in them, the Fluxes which happen chiefly proceed from the Scurvy, and I ſuppoſe if Sea-men could be preſerved from that diſeaſe, few other diſeaſes would indanger them. *An obſervation.*

The Concluſion.

THeſe recited medicines for Chriſtian charity I thought not amiſſe to publiſh, admoniſhing young men to be wiſe and carefull to make right uſe of them, and as neere as they can, to reſpect in the uſe thereof, Time, Place, Age, quantity, quality, temperament, ſtrength, climate, cauſe, and what elſe is fitting to be regarded for the good of the ſick, and credit of themſelves, and let them avoide ſlothfulneſſe, avarice, envy, feare, pride, or what elſe may hinder theſe duties, that God may give a bleſſing to their labours, and then the praiſe and comfort ſhall returne to themſelves, which God grant. *What is bad in a Chirurgion and ought to be avoyded.*

And for the elder ſort of grave Artiſts, I crave their charitable cenſures of my weake or undigeſted inſtructions, which I no way meane to them, but to babes in Chirurgery, and ſo I conclude to the honour of the Almightie, concerning the Scurvy for this time.

Concerning the Fluxes of the Belly.

THE principall Fluxes of the belly by a common consent of divers ancient Writers, are chiefly referred to three kinds, namely:

Leienteria.
Diarrhœa.
Dyſenteria.

What Leienteria is.

Leienteria is diſtinguiſhed to be that Fluxe which either paſſeth the ſuſtenance taken, wholly digeſted, and that without any bloud at all, and without great paine, or as it were halfe digeſted. The true cauſes of *Leienteria* proceed chiefly through imbecillitie and weakeneſſe of the ſtomacke, which may be occaſioned many waies, whereby the vertue retentive is weakened; yea and ſometimes the ſtomacke by ſome Apoſtumation is either wholly weakned, and cold or broken, or otherwiſe by crude humidities is oppreſſed, and muſt be ſtrengthned, both inwardly and outwardly, by things that corroborate and warme the ſame, as is Syrupe *de abſinthio*, or *oleum abſinthii*; Chimice three or foure drops thereof in wine, or beere for need, and I have found it good to a ſtrong body, at firſt, namely, in the beginning of the diſeaſe to give him a vomit of the infuſion of *ſtibium*, or rather of *Salvitrioli*, ten graines if it may be had, or of *Aquila vitæ* foure graines, or of *Cambogia* twelve graines, and ſo the medicine having done working, let him preſently ſleep faſting, if he can; if not, give him a little Cinamon-water, or a little *ſanguis prunellorum*, if you have it, or a draught of good Aligant, or conſerve of Sloes, or Quinces; and ſhortly after, namely three houres, if he cannot take his reſt, give him three graines of *Laudanum* in a pill, and ſo appoint him to reſt; but if you conceive, or feare the diſeaſe to proceed of Apoſtumation of the ſtomack, then beware of giving any vomit before perfect ſuppuration of the ſame, for it is deadly, but outwardly you may apply the to the ſtomacke, a bag, with Wormwood, Mints, or ſweet Majoram, and warme being ſprinkled with Roſe water and vineger, or elſe a bisket bedued well with Roſe water and vineger, being ſteeped, muſt be applied to the ſtomack, or anoint the ſtomack with *unguentum pectorale*, or with oyl of Nutmegs made by expreſſion: alſo *Theriaca andromachi*, or *theriaca Londini* ʒiß. is very good given him upon the point of a knife, or Marmalad of Quinces is alſo good: Mithridate is very fit and approved, or grated Nutmegs is very good, and Cinamon in powder taken in meats or drinks is good likewiſe, if theſe things

The cauſes of Leienteria.

Crudities a cauſe.

A vomit at firſt.

To corroborate.

An opiate.

Stomack comforted.

Pecto all unguent.

Cordials.

anſwer

anſwer not thy deſire, thou maiſt proceede to medicines more aſtringent, ſuch as follow in the cure of Dyſentery, one very familiar and good Medicine is *ſanguis prunellorum* aforeſaid, the doſe is ℥j. or ℥ij. with Mint or wormwood, or *Carduus* water, taken going to reſt, or taken of it ſelfe. But your mentioned *Laudanum* in all Fluxes judiciouſly adminiſtred is the only ſure helpe, nevertheleſſe in this griefe trie other good things: firſt all Aromatized ſtrong waters are convenient in this caſe, moderately uſed as well to avoide further Fluxes, as alſo in theſe fluxees to comfort the ſtomacke, ſtiptike wines ſerue well for it: likewiſe, *Theriace diateſſeron* ℥j. now and then, alſo *electuarium diatrion piperion* ℥ß. on a knifs point given is very good, for it mightily warmeth and ſtrengthneth the ſtomacke. But ſometimes it happeneth that not onely the meat paſſeth away by ſtoole, but alſo other undigeſted matter with it, in which caſe *Petrus Bayrus* in his *Veni mecum folio* 273. adviſeth to uſe things ſowre with meate as Verjuice or the juice of ſowre Pomgranats and the like, in want whereof the juice of Lemons is good, or rather ſyrmp of Lemons, or ſyrup *de Agreſtis*, or oyle, or ſpirit of Vitrioll taken in ſome fitting drinke, as *Carduus* water, or fair water wine, or Barly water, the oyle of Vitrioll. 3. droppes taken with con-ſerve of Roſes is alſo good in this diſeaſe; Alſo keep warme the region of the ſtomack and Liver, and inwardly as is ſaid, it is good to uſe all good comfortable helps that warme.

Aſtringent medicines.

Cordiall waters.

Diatrion piperion.

Syrupe of Lemons.

Oyle of Vitrioll.

Of Diarrhœa.

Diarrhœa is a Flux of the belly which is either meerely watriſh, or with humors and with ſlime mixed, for the ſignes of the diſeaſe are manifeſt, the cauſes too many for my leiſure to note unto you, concerning the cure of *Diarrhœa* if you ſee that the Patient be ſtrong, there is no great haſt of ſtopping this diſeaſe, for that it is many times a benefit of Nature, wherby ſhe avoideth ſuperfluous, or venemous, or otherwiſe vicious and offenſive humours: but when you ſhall perceive that it hath continued certaine daies, and that the partie is weakned thereby, then begin the cure as followeth: Firſt give him ʒij. of Rubarb dried as they uſe to drie Tobacco, and poudered either in wine or Carduus, or faire water, or the infuſion thereof without the ſubſtance, and after the working thereof, a gentle glyſter will doe well, which may likewiſe leave a ſtipticke qualitie in the guts, but not too ſtrong, ſuch as hereafter ſhall be mentioned, and let the partie be laid to reſt very warme covered, and warme clothes applied to the belly and fundament of the party; and if that helpeth not, you may give him within three houres three or foure graines of *Laudanum*, and let him againe incline himſelfe to reſt, and by Gods helpe he ſhall be cured; but if he have a Fever give him an opiate firſt, I meane the *Laudanum*. Good helps to the cure of this diſeaſe & all Fluxes of the belly, are theſe following, firſt to refraine and reſiſt asmuch as is poſſible the motions of going to ſtoole, not to ſtraine or force the body being at ſtoole, not to ſit long being at ſtoole, in riſing to remember to put up the

Stoppe not at the firſt.

A purge.

Warmth is very good.

Laudanum.

worth the obſerving.

the fundament with a clout, andthat if it may be with a warme ſoft clout: to ſit as hot as the party can, namely if it may be often to ſit upon an oaken bord hot isvery good; hot trenchers, or peeces of bords heated and applied tothe belly are very good,and to take the fume of wine vineger ſprinkled on a hot bricke, or iron, and ſit over it on a cloſe ſtoole is approved very good, and to ſit over the fume of Franckincenſe or Amber with a chafing diſh,and a few coales in a cloſe ſtoole is likewiſe verygood: this diſeaſe in our climate for the moſt part by skilfull Phiſicians and Surgeons is well and ſpeedily cured, but in the *Indies* it is every hardly cured, in ſo much that many have died of it,partly by the great wilfulneſſe & diſorder of the Patient,and by your leave alſo by the ignorance of the Surgeon being a thing they had not beene warned of before, nor practiſed in,and by not having good remedies and inſtruments fit at hand to give men helpe, wherefore let young Artiſts haue a care to theſe afore mentioned rules and medicines, not ſcorning them.

Manuall helpe.

To ſit hot.

A fume.

And among orher needfull inſtruments for poore Sea-men in fluxes, never be unfurniſhed in the ſhippe of one or two cloſe ſtooles with doores to them, and Braſſe pailes, that poore miſeable men in their weakenes may be eaſed thereon; and not to be conſtrained to goe to either the beake-head,or ſhrouds (as they terme it) for that not onely increaſeth the diſeaſe, but alſo cauſeth the falling downe of the *Ano* or Arſe-gut,a fearefull accident,except the ſurgeon be very carefull,diligent, and ready handed,in which caſes all nicenes,lazines,and diſdainfulneſſe (too much cleaving to ſome young men) muſt be laid aſide,for the very omitting of his duty in reducing the gut fallen,may eaſily be the death of the patient; whoſe blood will cry to God for revenge: Wherefore young Artiſts that profeſſe to feare the Almighty, ought to be compaſſionate to the meaneſt creature in this diſeaſe,as they would others ſhould do to them in the like caſe,and not even otherwiſe.

Care to be had.

A dangerous accident.

Petrus Bayerius an ancient learned writer, alleadging *Galen* in his ſecond book, *de locisaffectis*, defineth this diſeaſe as followeth: It is, ſaith he, tearmed *Dyſenterium*, whereas variety of ſubſtances are ſent out with the excrement, producing excoriation with dolour & paine, as if ſomewhat were ſhaven from the ſmall guts, and that ſhaven, ſaith he, proceedeth from choler and turneth to ulceration of the guts, and is compleat in two weekes,or proceedeh of a glaſſie coloured ſubſtance, and hath his termination in foure weekes: or proceedeth of a Melancholy humour, and is in perfection in forty daies: firſt beginneth the fluxe, then followeth the excoriation, &c. But to trouble the reader much, or my ſelfe with long definitions, eyther of the cauſes or ſignes of this diſeaſe,my leiſure will not permit me, and the rather will I not inſiſt thereon, for that in reading I finde divers learned and reverend writers that haue entred into long diſcourſes of the ſignes & cauſes of this griefe, preſcribing divers methodicall rules; & yet they conclude of the cure of *Dyſentery*, for the moſt part of them with a kind of Empericall forme of curing,namely ſome reciting one, ſome another medicine for the generall cure of this diſeaſe: many of them

Admonition to young Artiſts.

Ambiguity impertinent.

them ending without any rationall, or methodicall forme at all, which argueth in my opinion, that it is impoſſible either to finde out all the cauſes thereof, or to preſcribe any one true forme for the generall cure of the ſame, but the diſcreet Chirurgion muſt be armed with judgement in theſe following principles; namely, that if he perceive it to proceed by fulneſſe of bloud or humours, to ſeeke the health of the Patient by ſundry the moſt rationall and fitteſt evacuations; as namely, bleeding, purging, and ſlenderneſſe of diet: then alſo, to proceed to medicines which take away the acrimony, and heale the inward parts, then to thoſe which are Anodine, and doe cauſe reſt. A learned French Chirurgion named *Guillemeau*, writing a Treatiſe of this diſeaſe, in his concluſion ſaith as followeth: The Emperike all Medicaments which the methodicall Phyſitians ſo diſdaine and eſteeme of little worth, are thoſe which we through our experience, and through the diuturnall uſe of them, have found to be moſt excellent, which being uſed with Iudgement, are not to be diſdained, ſeeing that *Galen* himſelfe teſtifieth, that the Phyſitian muſt be eſtabliſhed on two foundations, to wit, reaſon and experience, whereof reaſon is as it were the ſoule of the ſame, which meaſureth and pondreth all things, & experience the body as a provident tutor & ſchoolemaſter; wherefore ſeeing that experience teacheth us that Rubarb in what manner ſoeuer we adminiſter the ſame, (but eſpecially the infuſion thereof) is very commodious & profitable in this diſeaſe, as likewiſe is *Spiritus vitrioli* with Roſe-water, and Plantane-water, and alſo being adminiſtred with Cinamon-water, ſaith *Guillemeau*, there is a ſugar-like *dulcor* or ſweetneſſe extracted out of lead, which never deceived the hope of the right reverend Maſter *Duion* a very learned Phiſitian, where of I have attained the beſt of theſe diſcourſes: the tincture of Corall and of yellow Amber, extracted with *Aquavitæ*, is in operation admirable, alſo *Crocus Martis*, or *flos Sulphuris* being in ſeaſon adminiſtred with the Conſerves of Roſes, Marmalet, Citron rindes, with other ſuch like things are very commodious, becauſe among naturall things I know nothing exſiccateth more, and oppoſeth it ſelfe more againſt all corruptions. To conclude, there are innumerable ſorts of remedies which we muſt ſo compound, that they may have one ſimilitude, or one Analogy with the diſeaſe: finally, we muſt in extreame Dyſentery for the laſt remedy indeavour to mitigate the paine with narcoticall things, as is the *Oleum Iuſquiami mandragora*, the cold ſeeds, the *Philonium requies Nicolai*, and many other ſuch like compoſitions which are unto this diſeaſe uſed, and which may not be adminiſtred except great judgement and adviſe had thereon. Thus much out of *Guillimeau*. This diſeaſe chiefly afflicteth Sculdiers in Wars, and Sea-men in long Voyages, and namely in hot countries, chiefly when after ſhort and hard allowances they ſhall happen on the ſudden to get great ſtore of raw fruit, freſh meat, fleſh or fiſh, or any other greate change of pleaſant dyet, in which caſes reaſon and Iudgement, as the principall helps are to be uſed, as for inſtance this diſeaſe is incident much to ſuch as change the place of their abode for a farre hotter

Adviſe to the Artiſt.

Guillimeau *his opinion.*

Ground of Arts

Rubarb praiſed.

Saccharum Saturni.

What people moſt ſubiect to this diſeaſe, and where.

hotter or a farre colder country, but chiefly into hotter, witnes the mortality through that diſeaſe w^ch hath often befallen our Souldiers in the warres in France, &c. As alſo now at Bantham, how much doth it afflict them that live there. Moreover as is ſaid, if it proceed of repletion, evacuation, and thinne dyet, is the meane to proceed in the beginning of the cure thereof: if it proceed of an acrimonious fretting humor, then one of your firſt helps muſt be a preſent purge, if ſtrength will beare it, namely of Rubarbe, as is ſaid in the cure of *Diarrhœa*, or a Decoction of myrabulans and alſo a good Barly-water: the ſecond good help is a Gliſter, which may be proper againſt ſharpe humors: and after to conclude the cure with a doſe of *Laudanum Paracelſi*, but if the party be in great weakeneſſe and want of reſt, give him ſome comfortable glyſter firſt, next that an *Opiate*, I meane the *Laudanum* one doſe: you may begin in weake bodies firſt with *opiate* medicines, in that there is moſt need of eaſe, and if you find after reſt it helpe not, uſe a Glyſter or a purge as you ſee cauſe, for though the *Laudanum* at firſt cure not, yet it giveth reſt, whereby the party afterwardes, it is likely, will be the ſtronger to indure cure by other reaſonable medicines, which done, if that anſwere not thy deſire, thou mayeſt returne to *Laudanum* againe and againe, alwayes remembring, as is ſayd, there bee foure houres at the leaſt diſtance, betwixt each doſe, and if the diſeaſe proceede of heate, ſeek to coole the bloud by a decoction of Plantane and colde hearbes or ſeedes if they be to be had, or at ſea with ſuch medicines as are uſed to quench heate, and are not meerely ſharp, and yet oyle of Vitriol is much commended to be taken certaine dayes together in any kinde of diſtilled waters either plantane, Sorrell, Straw-berries or the like, whileſt the ſayd waters are good and ſweet, or with *Aqua Sparnolæ*, if it be at hand, alſo a barley water with a little Allum or Galles in powder is ſingular good, ſo is Bole, but the finer the Bole is the better, and *Terra Sigillata*, Syrup of Quinces is good alſo in that caſe, and ſo are all the medicines made of ſloes, after ſome due evacuation, as in thy diſcretion thou ſhalt ſee reaſonable, but to conclude, a doſe of *Laudanum opiate*, is beſt to finiſh the worke, for that goeth before, or rather exceedeth all other medicines in fluxes, for that ſwageth all paines and cauſeth quiet ſleepe, which often even alone is the true perfection of the cure. And further, if it ſhal appeare, that this diſeaſe have ſo gotten the upper hand that the Patient is growne very feeble, his bloud being waſted, appoint him a diet that may warme and comfort the ſtomack, namely, at land if it may be had, Brothes of Chickings or the like, with ſome Spices therein, and Egges and Sugar, and a little Roſe water, but not Honey, for that increaſeth gripings, and cawdles with egges, wine and ſpices, according to good diſcretion will doe well, if they may be had, and give him, if thou ſee cauſe, a glyſter, if there be feare of excoriations in the guts, namely, a decoction of Barley or Bran, or of Bran onely with Deer ſuet ℥ ij. let not your decoction be too ſlimy of the Bran, and adde if you can get it, the yolk of one egge, for egges comfort much and ſwage pain, the yolk of the egge muſt be well beaten onely

If the Patient want reſt, give him a Gliſter.

The oft repeating of Laudanum require h this caution.

Laudanum laude dignum.

How to reſtore the patient very weake by Diſentery.

A gliſter againſt excoriation.

with the decoction by little and little, ſo taken very warm, or if the partie have gripings in his guts, make this glyſter following, and for want of Bran take a little wheat flowre, and with Camomile, Centaury, Worm-wood, St. *Iohns* wort, or ſome of theſe, make a decoction adding alſo Aniſ-ſeed, Fennell, Dill or Cummin-ſeeds, or the like, or ſome of theſe at the leaſt, adding after the boyling, ſome two or three ſpoonfuls of *Roſa ſolis*, or good *Aqua vitæ*, or ſome ſtrong cordiall waters, if you ſee there be cauſe to comfort and warm, and adding alſo, as is ſaid, Deer ſuet ℥ ij. with wax ℥ ß. *A glyſter for griping through Dyſentery.*

Alſo glyſters of milk and egges onely are very good to ſwage gripings and pains, where they may be had; alſo as is ſaid, warm clothes to the belly and fundament applyed are very good, and note ſtill that reſt procured is a principall help in curing all fluxes. *Another glyſter.*

For excoriations of the guts, make a glyſter with a decoction of dry Centaury, Hipericon, Worm-wood or Balm, with Barley, adding of Deer ſuet ℥ ij. and a little dried Galls in powder, or cut in ſlices, or *ſuccus acatiæ* or *Cortices granatorum*, or dried red roſes, if you have them, or Balauſties, which are flowers of Pomegranates: Note what powders ſoever you give in glyſters, let thẽ be exceeding finely powdered, otherwiſe they are very dangerous, and fear not to adminiſter an opiat, as I have ſaid, provided that there be four or five houres diſtance of time twixt each doſe: alſo you may give a doſe of Rubarb, namely, ʒ ij. or ℈ ß. parched and powdered fine, for ſo it doth beſt, taken either alone, or with *Sanguis prunellorum* one ſmall ſpoonfull in wine, and a little Cinamon water, or in any other convenient drink, as the preſent ſtate of the ſick ſhall cauſe thee; or for want of wine, beer, or water, you may give the ſick alſo conſerve of roſes or quinces, after which, if cauſe be to give the *Laudanum* again, you may ſafely do it. Furthermore in this caſe, as alſo in all kinde of fluxes, fumigations are very good medicines, namely, ſitting over a cloſe ſtool, provided the ſick be very warm kept, and not too hot, to which purpoſe a well burned brick heat very hot and put under the ſtool, laying two cold bricks under it, for burning the ſtool, and then ſprinkle often the hot brick with vineger if the diſeaſe be hot, or with vineger and *Aqua vitæ* mixed if it be cold, and for want of bricks ſome great pieces of old iron will ſerve, as it is alreadie rehearſed, alſo a decoction of cinamon or cloves, or both together, or nutmegs ſet under the ſtool, that the warm ſteam of the ſpices may come up into the bodie of the patient, is very good. Note further, that where you fear a flux of the belly may follow, that you purge not the partie with *Coloquintida*, *Trochis de Alhandall*, *Agaricum*, nor *Diagredion*. And remember ever when you give Rubarb, that you give cinamon, or ginger, or Aniſ-ſeeds, a little therewith, which correcteth the flatuous diſpoſition thereof. If this diſeaſe of the flux ſhall ſhew it ſelf to proceed of any contagiouſneſſe of the aire, as ſometimes it doth, this is certainly the moſt fearfull of the reſt, for although all diſeaſes have their originall from the hand of the Almighty, yet then we have all reaſon to call to our remembrances, the words which the Prophet *David* ſpeaketh *Another glyſter.* *All diſeaſes proceed from God.*

God muſt be ſought unto.

in the Pſalmes, *Whither ſhall I flie from thee O my God?* when therefore the aire which we are forced to receive into our bodies ſhall threaten us, then if ever, it is high time for Chirurgion and patient to crie unto God for his help and mercie, and yet not to miſtruſt, but to uſe all artificiall means, referring the ſucceſſe to the Almighty. Wherefore in this caſe I hold nothing better then a good purge of Rubarb, and then to take three or four grains of *Laudanum Paracelſi*, then after there may be given him one ſcruple of the beſt Treacle or Mithridate, or London Treacle, or meerly *Laudanum* alone. You may give the partie alſo a little Cinamon water, or *Aqua Theriacalis*, or *Carduus* water laying him to reſt: It were alſo to be conſidered whether the body ſtandeth in need of bleeding, purging, or a glyſter: but when as the diſeaſe proceeds from contagious and venemous aire, and is fierce, I hold it the ſafeſt courſe to forbear bleeding or purging, for fear of drawing back the venome to the principall parts, and rather to flie to Alexipharmacons or Preſervatives, as Venice Treacle, Mithridate, Diateſſeron, London Treacle, or the like: And preſently after, or immediately with it, as is ſaid, give a doſe of *Laudanum*, which of it ſelf is a perfect cordiall, and a good preſervative.

The cure of a flux through the contagion of the aire.

If the flix be fierce and ſudden what to be done.

The flix through the aire is infectious.

Many learned writers are of opinion that this diſeaſe is infectious, and that the breath and excrements of the ſick man may eaſily infect a ſound man, affirming alſo that from putrified and diſeaſed bowels, infectious vapours do aſcend and deſcend, and partly the rather by a kinde of ſympathy our bodies have each with other, but leſt that opinion of mine uttered may perhaps offend the courage of young Artiſts, whom I ſeek by all poſſible means to embolden, let them take this rule from me, in the fear of God, I hold no diſeaſe infectious to me, in that I have a lawfull calling, and I am therefore bound to viſit the diſeaſed, which who ſo neglecteth, God will finde him out with that diſeaſe or a worſe. Now a word or two of ſuch medicines as are belonging to the cheſt found in the ſhip, or at the utmoſt may be found in the Eaſt Indies, or that are likely to be found there, I intend to ſet forth ſome inſtructions for the Chirurgions Mate: and firſt note I have cured many, both in Dyſenterie and Lienterie, with burned Harts-horn, or in want hereof, I have found that onely the hard bones of Beef or Pork calcined or meerly burned till they be white, for ſo they muſt be, and it may eaſily be done in any wood or coal-fire, being not a fire of ſea-coal, and then being powdered fine, and given continually in the ordinarie drinks, during the time of the ſickneſſe it helpeth much, and you may aſſure your ſelf, that if you take much or little of it, it can do no harm to be taken, and with ſome few drops of cynamon water, if it may be had, it is the better, or a little Nutmeg and Cynamon in powder therein, alſo I have given it ſometime with Roſa ſolis and fair water mixed, of each two ſpoonfuls and ℥j. of the powder of bones.

Infection ſhould not daunt Chirurgeons called lawfully to the cure of any diſeaſe whatſoever.

The cure of Dyſentery at ſea, & of Lientery.

Another ſecret which hath cured many of the flix.

℞ Wheat flowre, and thruſt it very cloſe together into an end of a clowt,

clout, and ſo binde it up hard, and cloſe like a bullet, and put it into boyling water, and boil it three houres or more, and you ſhall finde it will be very drie and hard as chalk, and powder it, and give of this powder ʒij. or more in any liquid ſubſtance fitting, and it is a verie good medicine for any flux of the belly, either white or red: this medicine hath been often proved, and found ſure at ſea and land, yet it helpeth the vertue of the medicine well, if the vehicle or menſtrum you give it in be alſo good, namely, if you give it with ſome liquid medicine proper to the grief, alſo *Crocus Martis* ℈ j. given in red wine, Aligant or French wine, or with beer or water for a need, adding certain drops of Cinamon water, it is a very good medicine. The ſame alſo is given with Venice Treacle, or London Treacle, or good Mithridate is likewiſe very good, but to a weak perſon give it alone with Sugar, it will pleaſe his taſte better then with other ſtrong medicines.

But if you perceive the diſeaſe proceeds of worms, as often it doth, then give the patient a glyſter of a decoction of *Althea* roots, with a little worm-wood, adding *Coloquintida* ʒ ij. where there is no great acrimonious pains in the guts, but where there is great dolour in the guts, rather put ſome Bay-berries, namely ℥ ß. in your decoction, which decoction you may alſo make meerly of the bran, if you pleaſe, and make it not too ſlimie, I mean, put not too much bran or roots therein, then adde, if you have it, of *Aquilla Laxativa*, 12. grains, Deer ſuet ʒ ij. or three ounces, and give it ſtirring well the powder therein, this *Aquilla Laxativa*, certainly will kill any worms, and give preſent eaſe: alſo almoſt all bitter things kill worms, as *Aloes*, *Agaricum*, *Coloquintida*, *Worm-wood*, & the like, but principally *Aquilla Laxativa* doth it ſure, and is ſafe to be given, the doſe by way of gliſter is to 10. grains.

The cure, if the diſeaſe proceed of worms.

A glyſter.

The means to kill worms.

Mr. Edwards his medicine for the Flux.

℞ red-roſe water ij. ſpoons full, Cinamon ʒ ij. Almonds of vallence ʒ iiij. unblanched, the Cinamon is to be bruiſed and boiled in iij. pounds of water till ij. pounds be conſumed, then reſerve that decoction, and adde three pounds more of fair water to the former Cinamon, and boil it as afore, reſerve both the waters together, then beat or rather grind well your Almonds, and being well ground and beaten adde thereto ſome little quantitie of the water mentioned, grinding the Almonds therewith: and again beat the ſaid Almonds, & ſo often beat and ſtrain them with more of the ſaid liquor or water till all the ſubſtance of them be in the decoction which will be in the form of an Almond milk, then adde roſe-water ij. ſpoonfuls, and as much ſugar as to ſweeten the ſaid drink, give the Patient thereof to drink ſo oft as he pleaſe.

Let ſuch as fear the flix not overgorge themſelves, for the overcharging and ſtraining of the ſtomack oft bringeth this ſickneſſe, chiefly when the body is weak, as alſo if the food taken be crude or not well boyled or roſted, and meerly freſh without any ſalt. Alſo the uſe of eating Tamarindes brought from *Bantham* if you uſe them over much by their acrimony may eaſily cauſe a flux, although their vertues in preſerving from the Scurvie, are unreproveable and very good indeed.

Gluttonie a cauſe of the Flux.

The ſignes of the places affected with the Flux.

The higher toward the ſtomack the diſeaſe hath his beginning the more dangerous it may be adjudged. By the complaint of the ſick you ſhall know partly in what part of the bodie the diſeaſe is, though not alwayes: if the ſmall guts be in the fault there is alwayes great pain about the navill, but if it be in the gut *Duodenum colon*, or *rectum*, then the chief pain is in the lower parts of the belly, according to their places.

The cauſes of the Flux with the ſignes of death.

This diſeaſe proceedeth ſometimes by Apoſtumation of the ſmall guts, and then it is exceeding painful before it come to a Flux, neither can any anodine glyſter prevail at all to give eaſe till the full ſuppuration of the guts be perfected, and that the Apoſtume be broken.

If this diſeaſe proceed from a former great obſtruction either of the liver, of the lungs, or the Spleen, there is ſmall hope of life to be had.

Alſo when convulſions of the ſinews, ſingultas, and vomiting, or any one of theſe ſignes, eſpecially the two firſt appear, then commonly death is at hand.

One learned Writer rehearſing *Hippocrates* for his Author, ſaith, that uſually before death in this diſeaſe a black or blewiſh ſpot will appeare behinde the left eare of the ſick, which I alſo have ſeen obſerving it of late: you ſhall find Plantane water to be a very good liquor to give any drie medicine in for the flix, eſpecially where there is any complaint of heat, or excoriation, Plantane ſeeds are alſo good, and ſo is a decoction of the roots of Plantane very good for that uſe, or for glyſters where it may be had. The purging medicines which are called Diauretick, or that provoke urine are alſo praiſed by Writers: but I leave them to be done with great judgement, onely if you uſe any medicine to cauſe urine, the powder of yellow Amber is a ſure one, and without any manifeſt hot or offenſive qualitie, ſo is the powder of the Seahorſe peezell and the morſe tooth, of any of which if you give ʒj. for one doſe you may ſafely do it, but a ϑ is ſufficient at once. Oyle of Terbinthine and of Amber are good diauretick medicines, and much more forcible then the former, but not ſo fit in this diſeaſe, but rather good to drive gravell from the kidnies, and ſerve well touching the cure of many cold and ſlothfull diſeaſes, as the Dropſie, Scurvie, Lethargie, and the like. A vomitive medicine is not amiſſe in Fluxes whileſt the party hath ſtrength, but the young Artiſt may eaſily make an error, ſmall in ſhew, which notwithſtanding may quickly coſt a man his life, wherefore if he attempt in ſuch caſes to cauſe vomit, as one principle let him have great care to the true doſe of his medicines; but firſt let him have good conſideration, whether it be convenient to uſe any ſuch medicine, or no, for where eaſier remedies will cure, never attempt greater; but miſtake me not, I ſpeak theſe things of love onely to children in Art, and not to grave Artiſts, from whom I would gladly learn my ſelf. Further, I adviſe the younger Artiſts, not to ſtrive to ſtay a Flux, as is ſaid, in a full body, till nature be firſt unburthened, partly by the diſeaſe, and partly by medicines fit.

Plantane water, and ſeeds, and roots, are very good for the flux.

The giving of vomits require great care and a good judgement.

But as concerning Phlebotomie rehearſed as neceſſarie in the cure of this diſeaſe, do it not without great diſcretion, and judgement; for

for the Patient weakned formerly with ſo terrible a ſickneſſe, and his ſpirits ſpent bleeding by a veine, not adviſedly done may ſuddenly overthrow and kill him, yet againe I muſt confeſſe that rule holdeth not generally.

CERTAINE SIGNES, PROgnoſtications, and inſtructions which I hope will not be unprofitable for YOVTH *concerning Fluxes.*

THe Signes of the diſeaſe are alwayes manifeſt of themſelves, the ſignes afore-running or demonſtrating of the inſtant diſeaſe are theſe following: Paine and torture of the inteſtines, or ventricle. *Galen* teſtifieth *cap. 2. locorum affectorum*, in the very beginning of a Flux, ſaith he, ſharpe choler is ſent forth, wringings, and as it were off-ſcouring, or off-ſhavings of the inteſtines appeare, then after there followeth a little bloud, and then beginneth the diſeaſe Dyſenterie, and by the relation of the Patient it will often appeare if the paine be above or below the Navill. A painfull ſlow expulſion of the excrements of the belly with ſmall fragments bloudy and fatty doe argue the higher inteſtines to be affected, but if the griefe be lower, a paine below the Navill ſhall torment the Patient, then you ſhall ſee much fatneſſe with fragments, and thoſe fragmeuts of the lower inteſtines will be more groſſe and leſſe mingled with the excrements. A Dyſenterie ſlaying popularly and killing many, may be adjudged contagious, and is thought to follow a peſtilentiall conſtitution, and if in the times of a generall infection by the diſeaſe Dyſenterie, or Lienterie, a white Flux called Diarrhæa with Tenaſmus appeare in the Patient, that partie a little after ſhall be afflicted with the Dyſenterie. The Ulcers of the ſmall inteſtines are more dangerous then the ulcers of the greater.

The ſignes preceding the flix.

The excrements in fragments and fat therewith.

Difficultie of the inteſtines, if it proceed from a black choler is held mortall: *Aph. 24. Sect. 4.*

Long difficulties of the inteſtines, hunger and wearineſſe are evill ſignes, and it is ſo much the worſe if it be with a fever: *Aph. 3. Sect. 6.*

Mortall ſignes in the Dyſenterie.

Every Flux eſpecially if it be Dyſentericall, happening after a long ſickneſſe is mortall, ; but chiefly if it be ſudden, becauſe it argueth a ſudden corruption of humors and great debilitie.

A Flux drawing to a languiſhing dropſie is mortall.

If

If in a Dyſenteria a blew ſpot appeare behind the eare, the Patient ſhall die.

The Fluxes that are from the beginning wateriſh and afterwards like an unguent are evill.

In all Fluxes of the belly, and in all other diſeaſes, of weakneſſe of the appetite, inconſtancie of the minde, heavineſſe in ſleepe, imbecillitie of the legges, a hoarſe and barking voyce, a weak pulſe, beating often, paines over the whole body, chiefly about the belly, blackneſſe of the face, or of a deadly or leadly colour, and coldneſſe in all the extreame parts: theſe afore-ſaid ſignes foretell evill, but the ſignes contrary to theſe aforeſaid are healthfull.

The Hicket after an immoderate fluxe of the belly is mortall.

A good ſigne. Belching following a Flux of the belly is good, becauſe it is a ſigne that nature hath received, or againe begun concoction.

A bad ſigne. A flux of the belly which is not appeaſed by fit remedies is pernitious.

A peſtilent flux of the belly beginning with *Ilenteria Dearrheæ*, or *Tenaſmus* is worſe in children then in antient men, as experience teacheth.

If that by the difficultie of the Inteſtines, the excrements come forth like peeces of fleſh, it is a deadly ſigne, *Aph.* 26, *Sect.* 4.

Another good ſigne. In fluxes of the belly, changes of the excrements is a principall good ſigne, unleſſe the change be made worſer, *Aph.* 14. *Sect.* 2.

In perturbations of the belly and voluntary vomiting, if ſuch things are purged thereby that ought to be purged, it is good: but otherwiſe the contrary, *Aph.* 25. *Sect. Aph.* 3. *Sect.* 4.

A *Dyſenterie* which proceeds from yellow choler is not altogether mortall, as *Galen* affirmeth in his ſecond book of naturall faculties that many are cured of it. *Lienterie* after *dyſenterie* is mortall: theſe Canons following belong to the particular cure of any flux of the belly.

Generall rules for the cure of the flux.

1 No flux of the belly before the fourth day if the patient be ſtrong, is to be reſtrained.

2 The ulcers of the higher inteſtines are to be cured with medicines taken at the mouth, but thoſe of the lower with Glyſters chiefly: and if ulcers be in both, then are they to be cured both wayes.

3 To ſuch as cure a *Dyſenterie*, let adſtringent things be given before other meates that they may the better be retained.

4 Hot ſtiptick things are good in fluxes proceeding of a cold cauſe: And on the contrary, if the concocting facultie ſhall be weak, the uſe of hot things is likewiſe good.

5 If there be a cough with the flux of the belly, the patient ſhall abſtaine from all ſharpe ſtiptick things.

6 Sweating medicines and fricatiōns with oyle of Camomill and Dill, by opening the pores, and plucking back the matter to the oppoſite part are good in fluxes.

7 Cupping-glaſſes ſaith *Avicene* applied foure houres to the belly ſtay the fluxes of the belly.

All

All ſtiptick fruits by the counſell of *Avicene* are to be avoided in fluxes of the belly, notwithſtanding Cheſtnuts hurt not, as the ſame Author affirmeth. 8

Sleepe among other things is good for a fluxe, and ſo is any quietneſſe and reſt good unleſſe the flux proceed from ſome Catarrhe or rheume. 9

Touching the particular cure if the diſeaſe come of a hot cauſe, let there be a lenitive glyſter adminiſtred before the fourth day, which is this. ℞ *Aqua hordei* ℥xij *Mellis roſati* ℥ij. mingle it, and let it be made a Glyſter, twiſe reiterating it afterwards, let the cholerick matter be purged thus: ℞. *Roſarum rubearum violarum, a. a.* ℥j. let them boile onely one walme, and in the ſtraining, infuſe them the ſpace of ſix houres then adde theſe things: ℞. *Cortices mirabal: cit.* ℥j. *tragac.* ℈ij. ſtraine the medicine, and let it be ſo given: notwithſtanding warily, for indeede many of our ancients did abſtaine altogether from purging medicines in fluxes: whereupon *Avicene* 41. *capite* 3. ſaith, that it is dangerous to looſe the belly upon a former looſeneſſe. *A Glyſter.* *A Purge.*

If the matter be ſanguine, and the ſick of reaſonable ſtrength, you may let the lower veine be opened, to repreſſe the acrimony of the humour, to pluck back and coole the boyling of the liver, witneſſe *Avicena* 4. *primi* chap. 20. Phlebotomy doth binde the belly very much, and amongſt many is held for a great ſecret: for a certaine man of 70. yeers of age labouring with the Dyſenterie the ſpace of a moneth, when no other means would help him he was cured by letting of bloud, yet I confeſſe my ſelfe ſhould not eaſily doe the like.

If the excrements begin to grow thicker, and the gripings begin to ceaſe, the token is good: if in the excrements ſcraping as it were of the guts ſeeme to appeare, it is no token of death.

I reade that the ancients uſed cauſtick Glyſters of *Arſenicum, æs veſtum, Alumen* & *Calx vivum*, but theſe latter Phyſicians uſe rather aſtringent and narcotick medicines as theſe, *Cortices Thuris, Maſticis Boli Armeniæ Sarcocollæ*, and the like.

The ulcers of the ſmall guts are worſe to receive healing then thoſe of the great guts, for the greater are fleſhie and therefore they receive conſolidation ſo much the eaſier. The ulcers of *Ieiunum*, or the hungry gut are of al the worſt, becauſe it is ſmaller then the other, and becauſe ſharpe choler doth ſuddenly happen into it, it hath more veines in it then the reſt, and is next to that noble part the Liver, and further one reaſon of doubt is, for that medicines taken to binde and conſolidate, cannot long remaine therein.

In the *Tenaſmus* and the *Dyſenterie* coming after it, the patient muſt abſtaine from all ſharpe, ſalt, and bitter things; becauſe by uſing of ſuch things, the excrements become ſharpe, and cauſe excoriation. *In the Dyſenteria what muſt be refuſed.*

Hot things reſtraine the flux of the belly becauſe they make the meat digeſt, penetrate, cauſe urine and provoke ſweat, which is found in the drinking moderately of pure wine, as *Avicene* witneſſeth, beſides

ſides that, it provokes ſleep and helps digeſtion, notwithſtanding it is to be abſtained from in fevers, and when the flux proceedes from hot and cholerick humors.

A *Dyſenterie* proceeding from obſtructions will never be cured with Aſtringent medicines, but rather with penetrating medicines, by adding a little vineger which openeth more forcibly then wine, and mollifieth obſtructions: for if Aſtringent medicines be mingled with deſicatives, they increaſe the obſtruction.

Although ſome ſay that in the *Lienteria* the meat taken in doth come forth in the ſame colour and quantitie as it was when it was taken in: this notwithſtanding is to be underſtood that the forme and colour of it is of neceſſitie changed, but it doth not wholly alter it, for they are altered ſomewhat according to the *majus & minus*, becauſe it is an impoſſible thing that the nouriſhment being conveighed thorow ſo many inteſtines, ſhould come forth without any alteration at all.

There are ſome alſo which judge the *Dyſenteria* and the *Tenaſmus* by motion of the pulſe, that the patient hath a fever if the pulſe be moved ſwift; yet it ſeemes to me the contrary, although there is an over heating or boyling in the bloud by reaſon of the hot humours, the great motion of the body, want of ſleep and abſtinence: yet with the flux onely ſtayed, the fever hath an end.

Remedies for Vlcers in the inteſtines.

It is formerly ſaid that the ulcers of the great inteſtines are to be cured with Glyſters, and the ulcers of the ſmall inteſtines to be cured with medicines taken at the mouth: notwithſtanding it profiteth to take fit medicines at the mouth for ulcers of the great inteſtines, and in ulcers of the ſmall guts to inject glyſters, which ſometimes aſcend to both the ventricles, as experience teacheth: and ſo alſo are ulcers in the great guts ſometimes cured by medicines taken at the mouth; wherefore let no convenient helps be omitted in caſe of neceſſitie.

Galens rule if the Dyſenteria proceede from humours.

And though *Avicena* ſaith, it is dangerous to purge the belly upon a looſeneſſe thereof, yet the ſame *Avicena*, *Gerardus*, *Cremo*, *Serapio*, *Iordanus*, *de Turra* and other later Phyſicians of ſound judgement preſcribe in the cure of fluxes Purgative medicines; therefore they appoint things according to the patients ſtrength, when a Dyſenteria proceeds of many humours; or having an ill qualitie, the cure as *Galen* witneſſeth, hath one chiefe and moſt common intention, to that which is contrary to the diſpoſition to be taken away: Therefore let there be given *Myrabolans*, which in this caſe are moſt excellent, for they correct the acrimony of the humours, and ſtrengthen the ventricle, and the inteſtines; in want whereof Rubarb may be as well given, being dried a little. But if the flux be peſtilentiall, let the matter be purged preſently by ſweatign, as is ſaid, not reſpecting the concoction of humors.

Of

Of *Laudanum Opiat Paracelsi*, and the Vertues thereof.

THere are many diſeaſes which can hardly be cured without Anodine medicines, therefore in the Cure of ſuch diſeaſes, I mean where want of reſt through extreame paine or other the great diſquiet of nature doth foretell an imminent danger of death, if reſt be not ſpeedily procured, in all ſuch caſes Anodine medicines may doubtleſſe with great reaſon and good warrant be inwardly given. To procure therefore ſafe and quiet reſt, ſheweth great skill in the Artiſt, and to the Patient is more precious in his grievous infirmitie then much treaſure, but in no one infirmitie have ſuch medicines more ſhewed their admirable vertues, then that noble medicine called *Laudanum Opiat Paracelſi* hath done in the cure of that lamentable diſeaſe called *Dyſenterie*, or the bloudy Fluxe, as witneſſeth divers of our Nation comming from the Eaſt Indies upon good proofe, as alſo being no leſſe approved of, not onely by ancient and Moderne Writers, but by every expert Chirurgion comming from thoſe countries of their owne, too many experiences thereof have been made.

The chiefe vertue of Laudanum.

The vertues of this precious Anodine to be, I meane here recited, as they are noted and ſet down very learnedly by that famous Writer *Oſwaldus Crollius*, late Phyſitian to *Matthias* the third Emperour of Germanie in his booke called *Bazilica Chymica*, and not by him onely, but alſo by divers good Authors of credit, which have written of the ſame medicine before, which vertues being very many, may ſeeme almoſt incredible, though many of them my ſelf am witneſſe of to be true, out of my daily practiſe onely; they are meant by the true compoſition, according as *Theophraſtus Paracelſus* hath preſcribed it, and is the ſame compoſition which the ſaid Writer mentioneth.

Ozwaldus Crollius a writer of the vertues of Laudanum.

Touching the vertues of the Medicine.

THis Laudable medicine (ſaith *Ozwaldus Crollius*) deſerveth rightly his name, although thou call it *Laudanum*, for in all ſharpe paines whatſoever hot or cold within the body or without the body, yea, even when through extreamitie of paine, the parties are at deaths doore, or almoſt mad with the vehemencie of the ſame, this precious medicine giveth eaſe preſently, yea and quiet ſleepe, and that ſafely, but much better the body being firſt ſoluble, either by nature or

Ozwaldus *concerning Laudanum.*

Laudanum more efficacious if the body be ſoluble.

or Art, and you may give it ſafely, provoking firſt onely one ſtoole by a ſuppoſitorie, or a glyſter were better: in the collicke with Mint-water, it eaſeth the gripings forthwith. In the paines and gravell of the kidnies, likewiſe it giveth preſent eaſe. In the pluriſie it preſently and ſafely giveth eaſe. In paines of the joynts it is very good. In the ſtaying of rheumes, in the head and other like defluxions in the beginnings, it is a ſingular good medicine, as namely in the tooth-ach, diſſolve foure graines thereof in Plantane water, and put it into the eare on the aking ſide, and take three graines into the body, and lie to reſt, it is a ſure help. In all fluxes of the belly, whether they proceed of ſharpe or ſlippery humors, or whatſoever elſe offending cauſe taken with maſticke, *Terra Sigillata*, fine Bole, or with any other appropriate good medicine, it is exceeding ſure, for it fortifieth the other medicines, and doubleth their forces, adding his owne alſo thereto. In extreame watchings and want of reſt, either inwardly or outwardly taken, it is profitable, if outwardly you would uſe it, take foure or ſixe graines, with three drops of oyle of nutmegs, which is preſſed well mixed together, and binde it in two little clouts, and put it into the noſtrils, it will marvellouſly aſſwage paines in the head, and cauſe quiet reſt. In the extreame bleedings of the noſe called Hemorhage, it is an approved ſecret, that ſixteene graines thereof divided into two pils, and thruſt up into the noſtrils, into each noſtrill one part, helpeth the ſame. In all kindes of Fevers it is good to be given with water of Worm-wood, or pill-wiſe alone, and if the heat remaine after ſixe houres, you may give it the ſecond time, and after that againe in like time ſafely, not exceeding the doſe: yet let your owne experience leade you, that where you ſee three graines will not cauſe reſt, in the next potion you give one graine more, and ſo increaſe paulatim, but increaſe not but upon good deliberation.

In burning Fevers it aſſwageth thirſt, and provoketh ſleep chiefly in thoſe Fevers, in which the partie ſeemeth to have ſome ſhew of reſt, with tedious dreames and ſlumbrings mixed.

In the diſeaſe called Aſthma, and in the Tyſicke, if it be uſed in water of Hyſſope, it will preſerve the diſeaſed Patient a long time.

It conſerveth the naturall heat, ſtrengthneth the ſpirits, repaireth ſtrength loſt: It is alſo effectuall to be given to melancholy people which are voyd of reaſon, and are troubled with the paſſions of the heart. It is likewiſe uſed with good effect againſt vomiting, and the Hickocke proceeding of winde, faintneſſe or debilitie of the Ventricle.

In the ſuperfluous defluxions of the excrementall or menſtruall bloud, it is an excellent remedy with *Crocus Martis*, or red corall.

In phrenſies and madneſſe, both inwardly and outwardly it is good mixed with *Aqua vitæ*, and the temples anointed therewith.

In the falling ſickneſſe with ſpirit of Vitrioll, or the quinteſſence of Camphire, with alſo oyle of Almonds, it is uſually taken. The doſe of this opiat medicine, is two, or three, or foure grains, if there be looſeneſſe of the belly, as is rehearſed, it worketh much the better. Note that

that in ſome parts of the world this medicine in the mentioned doſe will doe no eaſe, wherefore when you finde that by experience, in the next Patient give more, but not to the ſame Patient without great reaſon. It is beſt given in any occaſion accompanied with waters or other medicines, which are moſt appropriate to the diſeaſes, and parts diſeaſed, and yet may very well be given alone in a pil, which I willingly do, for that the Patient then is leaſt troubled with the taſte thereof. *The beſt way to adminiſter it.*

But beware you uſe not this medicine to any, which are feeble through a great cough being oppreſſed with tough phlegme and ſhortneſſe of breath, for there it is not good: if the diſeaſe be violent, as I have ſaid, one doſe may be given after another, with ſixe houres at the leaſt diſtance, very ſafely, but *Ozwaldus Crollius* ſaith, within foure houres, as is ſaid in the Cure of Dyſentery. *A Cautian remarkeable.*

In a word this *Laudanum* paſſeth all other medicines in the cure of Dyſenterie, for which cauſe I have publiſhed it to the benefit of the younger ſort of Chirurgions, which adventure their lives toward the Eaſt Indies; I know it is preſumption in my ſelfe and deſerves blame, that I ſhould handle medicines of this nature ſo copiouſly, for which I crave pardon from that grave and learned Societie of Phyſitians of *London*, whom of right I ought to reverence, and doe: excuſing my ſelfe that I have done it meerely for the benefit of young Sea-Chirurgions in the remote parts of the world, where they otherwiſe have uſed *Opium* in common, without underſtanding the danger or doſe thereof, to the loſſe of many mens lives. It behooveth young men to be carefull to carry with them ſuch ballance, as the beame will turn at one halfe of a grain, with weights and grains fitting, and to keep them warily and alwayes ready at hand for all occaſions, for he is an unworthy Chirurgion, which is at any time unready with ſuch needfull inſtruments. This *Laudanum* I eſteeme ſo ſufficient a medicine truely prepared in all cauſes, where an Opiat medicine is required, that if I were upon my life to morrow to undertake a Voyage to the Eaſt-Indies in any great Ship, I would renounce all other compoſitions of that kinde whatſoever, rather then miſſe it: yet am I not ignorant of divers other good compoſitions of Opiat medicines in daily uſe, as namely *Philonium Perſicum Romanum, nic. & meſ. Roman ſeu Tarcenci, Athanaſica magna, Aurea Alexandrina, Triſera magna nic. Diacodion, Diaſcordion*, & many more: before all which I onely would take the true *Laudanum Opiat Paracelſi*, for when the reſt had fully fermented at Sea, and were voyd of all their ſuppoſed vertues, which their preparers had challenged them to have had, yea and had been turned to crawling Animals, even then and twentie years after their deaths, may any man relie upon the aforeſaid *Laudanum*, as a true medicine; which medicine notwithſtanding, I know it is unpoſſible for the Chirurgions Mate to prepare at Sea, yet for that he ſhould be the better ſatisfied, when he hath occaſion to uſe it, I thought it not amiſſe to ſet downe the ingredients, with alſo the true forme of the preparation thereof *his verbis*, out of *Ozwaldus Crollius* being one of the beſt I ever found or read. *The cauſe of this deſcription of Laudanum.* *Note.* *Laudanum excelleth all other Opiats.* *Becauſe of his duration.*

Laudanum Paracelsi Laudatissimum, and the true preparation thereof.

℞. *Opii Thebaici uncias tres.*
Succi Hyoscyami debito tempore collecti, & in Sole prius inspissati unciam unam & sem. specierum Diambræ & Diamoschi, fideliter dispensatarum ana uncias duas cum dimidio mummiæ transmarinæ & selectæ unciam sem.
Salis perlarum.
Corallorum ana drachm. iij.
Liquoris Succini Albi per Alcohol Vini extracti.
Ossis de corde Cervi ana drachmam j.
Lapidis Bezoartici.
Vnicorni animalis vel mineralis drachmam unam.
Moschi.
Ambræ ana scrupulum j.
In defectu genuini auri potabilis nullis corrosivis inquinati addantur,

Olcorum {
- *Anisi.*
- *Carui.*
- *Arantiorum*
- *Citrorum.*
- *Nucistæ.*
- *Caryophyllorum.*
- *Cinamomi.*
- *Succini ana guttæ* 12.

Fiat ex his secundum artem chymicam, massa, seu extractum, ex quo ad necessarios usus, possint pillulæ effermari.

Observations in the preparation of thu medicine.

℞ The roots and rindes of the younger Hemlocke, casting away the inward woody part thereof: the time of the gathering thereof is the Summer, the Moone being in the signe *Aries* or *Libra*, and before the full of the Moone, and if it might be done it were best to be gathered in the very houre the Moone is entred into one of the said signes: this observed, let the Juyce thereof be pressed out, and filtered, and coagulated, then set in the Sunne to harden, which done, extract the tincture thereof *per spiritum vini*: the *Opium* ought to be purged in some distilled water, as of Hyssope or the like, as *Aloes* is used to be purged, and after, the tincture thereof to be extracted *per spiritum vini*, the tincture of the *Species Diambræ* is to be extracted also *per spiritum vini*.

The time of gathering them.

The preparing of the juyce expressed.

The preparation of the Species. Diambræ.

The juyce of *Hioscyami*, or *Henbane* with the extract of *Opium* mingled, together with the spirit of wine, whereinto they are extracted before, is to be evaporated from them ere that they be mixed with the

the reſt of the ingrediences. Alſo the *opium* and juice of Henbane muſt bee digeſted in chymicall manner for a month at the leaſt, that thereby their ſulphurous, venemous, and dangerous vapours they have may be well corrected, which vapours have a yellowiſh froth or ſcumme ſeene in the ſuperficiall parts of them, and are very obnoxious and dangerous, which I thought not amiſſe to adviſe the ſtudious and induſtrious Chymiſt of.

Let all the extractions be done in the true ſpirit of wine well rectified, and then the longer the extract remaineth in the digeſtion, the better willbe your medicine. *A ſpeciall obſervation.*

Hee that intendeth any part of this compoſition for women, muſt forbeare the muſke and amber-greece, and uſe with it rather foure graines of good *caſtoreum*, I meane in that one doſe he intends to give the women; but in this I digreſſe from my ſcope of the Sea-practiſe, where women in long voiages are rare creatures. Wherefore to the buſineſſe in hand: the feces of the *opium hioſcyami, ſpecierum ambræ &c.* after their tinctures are extracted from them, are to be calcined and brought into ſalt, namely by infuſion in ſome fitting liquor, after calcination, with all due filteration, evaporation, and coagulation with Cohobs convenient, and ad to the reſt of the compoſition. *A digreſſion. Extraction. Calcination*

And concerning the tinctures mentioned to be extracted in *ſpiritu vini*, after one month digeſtions the *ſpiritus vini* is by *balneum mariæ* to be evaporated till the reſidence be almoſt of the thickneſſe of honey: which done and gathered cleane into one convenient glaſſe, porringer, or the like inſtrument, then adde the ſalt *corallorum, perlarum, Mũmia* beaten fine, and alſo the Bezar, and the *cornu cervi, muſcus* and *ambra* all in fine powder, and well mixed with the ſaid extracts, then adde the aforeſaid ſalts of the recited feces, and alſo the former recited oyles, all of them firſt mixed together with the Liquorice and Succini ſhaken well together in a glaſſe-violl with a few drops of *ſpiritus vini*, for that the ſaid ſpirit of wine cauſeth the recited oyles well to incorporate, which done, and that they are mixed all in one and added to the former, the *Laudanum* is ready, onely if you could forbeare your medicine ſo long that it might afterwards ſtand in a ſmall Alimbecke of glaſſe, with a blinde head one month, it would be much the better. *Evaporation. The manner to finiſh the compoſition.*

This medicine though it would put many that profeſſe much knowledge in the Art of the Apothecary to their trumps truely to prepare it, yet to an Artiſt which is a true Preparer of medicines it is plaine and pleaſant to be done, and once done, it is for his whole life a ſure medicine, and will doe the worke-maſter credit that uſeth it. *To Compoſe this Opiate aright is hard to a Bungler.*

I have the rather explained this medicine for that ſo many groſſe and dangerous compoſitions are daily hatched up, and uttered abroad for currant under the name of *Laudanum Paracelſi Opiati*, to the extreame hazard of the lives of very many, and to the great prejudice of the Commonwealth, from the danger whereof God deliver each honeſt Chriſtian. And for that the younger ſort of Artiſts ſhould not eaſily be deceived with falſe compoſitions, though I confeſſe it is

not

Markes to discerne the false from the true Laudanum.

not possible to espie some cunning deceits which may passe in farre plainer compositions then this is, yet take these few notes following when you would buy it, for remembrances. First note, that the medicine is false if it be uneven, I meane if it have any course or grosse thing in it, so that it will not all clearely dissolue as a juice of Liquorice well made will.

Notes of the true Laudanum.

For this is an infallible rule, extracts are the pure parts of things, & will wholy dissolve, or be dissolved. Further note, that if either hony or sugar be found in the medicine, it is false.

Also if it more liquid then the ordinary balls of Liquorice made up in *London*, it is false or foolishly made, and will not keepe.

Also if it retaine the lothsome smell of *Opium*, it is not to be trusted

Also if it be not meerely of one colour so that you see nothing of the ingredients appeare at all, it cannot be good.

For assure thy selfe this composition truly made must be smooth, and well smelling of such an indifferent hardnesse that without additions you may roule it into pills, and is not greatly ponderous or heavie, but it is of an unpleasant taste, I must tell thee, and therefore I use to give it, as I have said, in a pill, except necessity by weakenesse of the Patient when he cannot swallow a pill, urge the contrary, or that I use it in outward griefes, as toothach &c.

Iliaca Passio.

Lion or *Iliaca Passio* is a most painefull disease, proceeding from an obstruction of the small guts, which suffering nothing to passe downewards causeth a great wringing and paine, so that many which are oppressed with this disease doe perish, and die a very miserable death, ending their daies, with their feces, or their owne excrements issuing out at their mouthes, and it is many times noted for a disease infectious.

A fearefull visitation.

Iliaca and Colica differ in place.

This wofull kinde of belly-ach or *Iliaca passio*, differeth from the collick in the situation, in that it hath his place, and being in the small guts, and the chollicke onely in the greate guts, so that a vomit sometimes giveth ease herein ; but glysters seldome or never give any helpe, for that seldome any thing will be brought forth downwards though the glisters be never so strong: but herein the helpe that is to be hoped for by glysters is farre better effected by the glyster firing, then by the glyster bagge, for one may deliver it with that instrument with as greate force as you please.

Causes.

THe causes of this disease are almost one with the chollicke, both which are obstructions in the small or great guts, and proceede chiefly of three causes as saith *Dominicus Leo*: namely

1 The

1 The drineſſe of the ordure, or excrements.
2 Abſceſſus, or a bile, or a botch in the guts.
3 Thicke and drie humours.

Alſo this diſeaſe ſometimes commeth by diſtemperature of the ayre being very cold, alſo by a blow or bruiſe upon the gut *Ilion*, the inward cauſes may be very many, namely by drinking of poyſon, or cold water, meates of hard degeſtion, binding of the belly, and ſuch like.

Signes or tokens

THE ſignes or tokens whereby this diſeaſe is knowne, are as *Galen* affirmeth, 7. *Aphoriſ.* 19. an intolerable paine and wringing in the upper part of the guts, and no excrements deſcending downward. Sometimes it mooveth heavy and ſore vomits, ſo that the very feces are vomited upward, of which diſeaſe or griefe ſcarce any in that kinde doe eſcape, as *Galen* witneſſeth, *lib.* 6. *cap.* 2. I have ſeene the like in a Rupture by reaſon of a part of the gut *Ilion* that was fallen through the *Peritoneum* into *Scrotum* that could not be reduced, the ſicke vomited his excrements, and died the ſecond day. Alſo much watching ſometimes cauſeth great paine in the ſmal guts or *Ilion*, alſo ſtrong Convulſions, by cold in the extreame parts, and if any feces be gotten forth of the fundament by any meanes they being put into water will ſwimme aloft. Item if this griefe come of poyſon drunke, then the Patient will ſuffer Tremor Cordis, ſoundings, diſability of the faculties of the body by vomit, which commonly goeth before the pangs, and all theſe aforeſaid ſignes are uſually more vehement and ſtronger then in the Collicke.

A fearfull vomiting

Note

Prognoſtica.

WHen the diſeaſe cometh with diſtilling or dropping of urine, the party dieth within ſeven daies, *Galen aphoriſ.* 44. except an Ague happen, ſo that in the meane time ſufficient quantity of urine doe come.

Item, vomit, the Hicket, *Delirium* or ſtrong convulſions are evill ſignes, *Avicen* vpon the 7. *aphor.* 10.

A deadly ſigne.

The vomiting upward of the excrements, are deadly, yet young folkes eſcape in this diſeaſe ſooner then olde folkes.

The *Ilion*, where the paine doth change from place to place, is of leaſt danger: becauſe it dependeth or prooceedeth of winde, which is eaſily reſolved.

A good ſigne.

The breaking of winde upward or downewards, and ſtinking much, is evil and deadly: as alſo the excrements much ſtinking is the like.

Another.

Cure

IN the cure of this diſeaſe no Phyſician or Chirurgion, reſpecting his Credit, will take vpon him abſolutely the cure thereof, eſpecially if the Scurvy be cõfirmed in the patient, without he be ignorant

Promiſe no cure.

If

Promise no cure. if the patient doe vomit the fæces or excrements upward, but if the Scurvy be not yet confirmed in the Patient, then the cure of this diſeaſe differeth little from the cure of the Collick, and may be indifferently uſed, and is all one, but that onely the ſtronger medicins and greater diligence is to be uſed in the *Iliak*, then in the Collicke: which if it were on ſhore or land, much more good might be expected, where aire, diet, place, and many other helps, obſervations, and conſiderations according to the quality of the diſeaſe, with advice alſo of the learned Phyſicians obſerued, all which the Sea affordeth not.

Obſervations.

Certaine briefe and ſpeedy notes for the Chirurgions-Mate at his neede, when neither Doctor, Chirurgion, nor Apothecary is to be had.

Iliaca of poyſon. FIrſt, if the diſeaſe come of poyſon exhauſted, a vomit with warme water and then warme oyle, or ſome fat broth is to be adminiſtred, and after a day or two ſome good treakle to be uſed.

If the cauſe come of crude meats remaining in the ſtomack, or that the diſeaſe come of crude and raw meats, a vomit is to be uſed.

But if there be no crude meats yet remaining in the ſtomack, then all means muſt be uſed to diſperſe the winde, and to draw the excrements downward, either by potions, glyſters, or ſuch like: and firſt with glyſters to ſupple the guts, and to evacuate the obſtructions of the lower parts: make therefore a glyſter of common oyle, or Linſeed oyle, and give him, or a decoction of March-mallow roots, Comfrey roots, Linſeeds and Fenigreek, adding Bay-berries and oyle of Dill, and Pulvis Arthreticus, or ſpecies Hieræ Pigræ ℥j, give this glyſter with the great Siring, and put it up with good force, remembring to adde ſalt, one ſmall ſpoonfull thereto. Alſo you may uſe Suppoſitories, and all other helps which are proper in the cure of the Collick: or a mixture of honey and ſalt-Peeter, or Niter to anoint the fundadament therewith, & uſe foments with ſpunges, &c. as in the Collick. Alſo Phlebotomy may be uſed, eſpecially in young men, and that in Sommer, or warm Countries, & namely, where the diſeaſe commeth of an Apoſtume, or botch: Purging potions are alſo good, as *Pulvis Arthreticus* ℥j, in wine or beere, or *Aquilla Laxativa* 12. graines in a pill or in beere diſſolved. Moreover, Reſolution of the matter is to be made with foments, with cloth or woollen ſtupes wet in oyle, wherein Dill, Camomill, Rew, Hollyhocks, &c. have been boyled, and applied very warme. Alſo Cataplaſmes made of Barley-meale, Cummin, Rew, Linſeed, Fenigreeke, Dill-ſeeds, Anni-ſeeds, Fennell-ſeeds, Bayberries, and the like, are very convenient.

Of potions and glyſters.

Fomentations.

Alſo the Patient is to ſit in a Bath made of oyle and water, wherein are boyled Camomill, Mellilot, Dill, Althea, or Hollyhocke, Rew, Bayberries and the like, all theſe are good helps.

Cataplaſmes.

A ſtrange medicine. *Nota Stercus Lupinum* is a remedy in the *Iliacke paſſio*, even as *album Græcum* is in the *angina*.

Alſo

Alſo old Treacle and Mithridate are good helps for thoſe which cannot hold their meat, and you muſt give them to drink the powder of Thus or Frankenſence, and Cummin ſeeds in warm oxymel.

To conclude theſe brief notes, I wiſh the young Artiſt in this miſerable diſeaſe, to try by ſtrong glyſters and purges, and every other good means which is warrantable, and not ſtrictly to reſt upon theſe ſhort inſtructions, in caſes difficult and dangerous.

Collica paſsio.

Collica paſsio is called in Engliſh the Collick, and it is called a paſſion, becauſe the pain thereof is ſo great and vehement, that many times the patient deſireth rather to die then to live in that vehement pain. This diſeaſe hath his name of a gut called *Colon*, and happeneth very often when the excrements are retained beyond their naturall times and cuſtomes. *The pain deſcribed.*

This infirmitie is engendred of ventoſitie, or winde in the gut *Colon*, and cannot get out, ſometimes it proceedeth of colerick humours, and untemperate heat which drieth up excrements, and hindereth the due evacuation: alſo it cometh ſometimes of cold and drie diſtemperatures with increaſe of fatneſſe, making ſtrict the paſſages of evacuation of the excrements, and weakneth the expulſive faculties. Alſo this pain proceedeth ſometimes from the humours of the ſtomack, gathering winde from the liver and milt, ſometimes from the reins of ſuch as have the ſtone. Alſo from an Apoſtume in the wombe, and ſometimes it proceedeth from all the parts of the whole body of man, as in fevers, where the humors are expelled from the veins to the guts, and proceedeth of hot and dry, or cold and drie diſtemperatures, but never of moiſt, as ſaith *Dom. Leo.* *How it happeth.*

Signes.

THe ſignes or tokens of this paſſion are both generall and ſpeciall.

Generall ſignes are vomiting, lothing of meats, great pain, retention of the excrements, unreſt, griefe or paine in the fore-part of the belly, conſtipation ſo great, that it will go neither upward nor downward. *Vomiting a ſigne.* *Coſtiveneſſe a ſigne.*

The ſpeciall or proper accidents that do alwayes accompany the Collick are continuall thirſt, vomiting of choler, watchings, by looſe or cholerick excrements, a ſtraining or wringing pain, though not long enduring, and young perſons in the Sommer are moſt ſubject to a looſe collick: but the tokens or ſignes of the ſtate of a cold body in old age, are ſlothfulneſſe and lazineſſe, much deſire after groſſe and cold meats, rawneſſe, *Nauſea*, or queſineſſe of the ſtomack, ready to caſt, but cannot, *Pituoſitie* or ſlimie vomits, little thirſt, the paine more remiſſe, but longer continuing. Rumbling of the bellie, deſiring to drink cold water, or ſmall drink. Longing after all manner of fruits, and white meats. The paine changing from place *Continuall thirſt.* *Beware of cold drink.*

to place, and the feces to ſwimme, being put in water, and very many ſuch like ſignes too tedious to trouble the Chirurgions mate withall at this time. *Avicena* ſaith, that amongſt outward ſignes of this diſeaſe, if the patient ſick of the Collick have certaine ſmall whelks or puſhes ariſing upon his belly, about the bigneſſe of a beane, ulcerating and continuing above two dayes, it is a ſigne the patient will die of the diſeaſe: Alſo when the Chollick doth not give place to Glyſters, Foments, Motions, Cataplaſmes, and ſuch like good remedies: you may then with *Galen* 12. *Methodi Medendi*, judge that biting humours doe poſſeſſe the tunicles of the guts, but if the diſeaſe yeeld or give way thereto, then the matter of the diſeaſe is contained in the cavitie or hollowneſſe of the guts.

Authority.

2. Authority.

The Collick ſtill continuing with vomiting, cold ſweats, often ſobbing or the hicket, and not giving way to remedies adminiſtred, is deadly.

A peſtilentiall Collick, or contagious Collick, doth almoſt alway kill.

A Collick with feces voyding ſlimy ſubſtances, though an Apoſtume be in the greateſt guts, yet it is curable.

The Collick proceeding of winde is eaſily cured. An eaſie or good breathing, or taking breath is a good ſigne in the patient that he may be cured, but difficult breathing ſheweth the contrary.

The Cure.

Method of the cure.

THe manner of curing the Collick is effected by renewing and taking away the cauſe, and then the paine vaniſheth: But to remove the cauſe, many things are to be put in practiſe, as preparing the humours by evacuation, remiſſion and reſolution, all which require ſome long time, and therefore other meanes are firſt to be uſed to take away the paine, or at leaſt to mitigate the ſame with Anodine medicines, and the due application of convenient helps of warme and moiſt temperatures, which not helping, you muſt againe have recourſe to Necroticall and Stupifying things, which indeede are not to be uſed, but in great extremities to give the patient ſome preſent eaſe.

Anodines firſt.

Necroticall medicines if neede.

Anodine medicines are to be adminiſtred ſo well inwardly as outwardly, as firſt inwardly, namely in glyſters conſiſting of moiſt and fat ſubſtance, as the decoction of Camomill, Dill, Linſeed, Mellilot, Mallowes, Hollihock, Fenigreek, Bayberies, or ſome of theſe, with one ounce of the new extract of *Caſsia*, and ſome ſugar, with Linſeed oyle and butter adminiſtred. Outwardly, theſe are to be applyed, either Unctions, Cataplaſmes, Fomentations, Baths, or ſome ſuch like convenient medicines, as time and place beſt fitteth.

But if theſe ſhould not helpe, then in great extremities, you are to flie yet againe to Necroticall or ſtupifying medicines, as namely *Laudanum Paracelſi*, which exceedeth all Necroticis: or *Philonium Romanum* is alſo a good medicine: theſe are onely to be uſed in cauſes proceeding

ceeding of heat, and never of cold cauſes; for in cold cauſes that were rather to confirme the diſeaſe, and yet in the judging whether the cauſe be hot or cold, ſometimes a good Artiſt deceives himſelfe. If the Collick come of winde, then you muſt apply warme reſolving medicines, I meane diſſolving and diſperſing medicines.

Notes to be conſidered of by the Chirurgion in beginning of the Cure of the Collick.

1 *A caveat.* FIrſt, whileſt the meat is yet crude in the gut, I meane before it be digeſted and turned into excrement, no looſing medicines are to be adminiſtred, but rather a ſmall and ſpare diet, and in the beginning to begin with mollifying glyſters, and then afterwards to proceede with more ſharp and ſtronger. But before all things, if the patient have a full ſtomack, and withall queaſie, after a glyſter, then a vomit is pricipally to be adminiſtred. *Glyſters and vomits.*

2 Repletion or over-fulneſſe, as well as too much faſting is to be avoided.

3 *Beware of Agaricum.* Thirdly, no *Agarick* is to be uſed in any of your medicines for the Collick, becauſe that cleaveth to the guts, and bringeth moſt terrible paine and torſions, yet *Stokerus* a learned Germane writer, doth highly extoll the ſame to be put in Glyſters to give it preſent eaſe.

4 Fourthly, you muſt by cordials have a care to preſerve the Liver, Heart, and Head, leaſt they be hurt or offended by the vapours, and over-much heat of the oyntments, cataplaſms, and fomentations which are uſually applied to the parts agreeved.

5 *A caveat.* Fifthly, in the beginning over vehement warmings are to be avoided, eſpecially, if the Collick proceed of the dry feces; for thereby they be the more dried.

6 *A ſecond caveat.* Sixthly, cold water is to be avoided, and not any waies to be permitted to be uſed to quench thirſt withall, but rather let the patient uſe ſome ſtewed prunes, Julip of Violets, conſerves, and ſuch like; or a barley water, with a few drops of oyle of Vitrioll and ſome licoras are good.

Specificall remedies. Specificall things that cure the collick are very many, as horſe-dung drunk in wine, hares-dung or henne-dung drunke in Oxicratium, where ſuch may be had. Alſo the powder of Harts-horne, corrall, cockell-ſhels burnt, or ſwines hoofes burnt or Calcined till they be white, and ſuch like, according to the diverſitie of the cauſes. Further in the particular cures of this diſeaſe, there are very many things obſerved by the learned Phyſicians, according to the diverſitie of the cauſes, which were too much to trouble the Chirurgions mate withall at this preſent, as the ayre, diet, and divers other good helps to the cure of this griefe, which cannot be obſerved at ſea, onely fiſh and and water-foules are to be avoided as much as may be.

The Cure. To cure the Collick which cometh by meanes of the feces remaining, and being dried up, which happeneth moſt commonly at the ſea

in long voyages, and eſpecially in hot countries: there are three ſundry intentions to be obſerved.

The firſt, to mollifie the feces, and ſupple the guts.

Secondly, in Evacuating, to diſcharge the belly.

Thirdly, to remove or take away the cauſe of exſiccation, or drying up of the feces or execrements.

The firſt is performed with glyſters made of common oyle or butter, with the decoction of Mallowes, Violets, Beets, &c. and by drinking oyle of ſweet almonds, or a decoction of *Polypodium*.

The ſecond thing which doth bring forth the mollified feces or excrements is *Caſsia fiſtula*, or *Manna*, or *Diaphenicon*, or *Hiera*, or ſharpe glyſters.

The third intention curative, if it could be attained to at ſea, were to remove firſt the externall cauſes of the diſeaſe, as over-warme ayre, over-ſalted dry meats, and ſmall quantitie of food, faſting, watching, melancholy, and the like, and inwardly to help the weakneſſe of the expulſive faculty, with *Treakle*, *Mithridate*, *Conſerva roſarum*, or the like cordiall helps, helping alſo the expulſive facultie with glyſters and ſuch like good things: For further inward remedies you may uſe the aforeſaid glyſters, or halfe a drachme or ℈j. of *Sulphur vivum* drunk in warme wine, and the belly well covered with warme clothes helpeth ſomewhat.

Item, Carraway-ſeeds made warme in wine, but not boyled therein, being drunk helpeth.

Item, a glyſter made of Sope and Honey is a preſent remedy.

Item, a bag ſtuffed with bran, and made very warme ſprinkled a little with vineger, and applied to the belly is good.

Item, Goats milke, or other milke, boyled with honey, and applied to the belly with a ſpunge, or cloth warme, in maner of a foment, healeth the Collick, and driveth away wormes, and ceaſeth the paine.

Item, the gall of a bullock, Salgem, Aloes, common oyle, *ana partes equales*, mingle them, and make an oyntment thereof, wherewith annoint the fundament before the fire, that looſeth the belly, and bringeth forth the hard feces.

Tenaſmus.

The definition of Tenaſmus.

TEneſmus or *Tenaſmus*, as *Hippocrates* calleth it in his ſixth *Aphoriſme* & in the ſeventh book, is a diſeaſe, of extention, or ſtraining out of the right gut called *inteſtinū rectum*, being oppilate or ſtopped, and of ſome of Engliſh writers it is called Coſtivenes. This diſeaſe as *Galen* ſaith in his ſecond book *De methodo medendi* is when a man hath an extraordinary provocation, luſt, or deſire, and a vehement ſtraining to go to the ſtoole, but cannot void any thing at all, except ſometimes ſome ſmall quantitie of ſlimy matter, which now and then is mixed with bloud, or a bloudy ſubſtance, and the extraordinary deſire of emptying or going to the ſtoole not ceaſing.

This

This diſeaſe proceedeth of divers cauſes and accidents, both outwardly, and inwardly.

The cauſes of Tenaſmus outward and inward.

Outwardly by cold, coming accidentally to the hinder parts, or arſegut, as the long ſitting upon a cold ſtone, upon iron, a boord, upon the cold ground, or any hard thing, whereby the Sphincture, or round muſcle compaſſing the ſtraight-gut is preſſed, or bruiſed. It cometh alſo by intemperate heat, and drought, and corruptneſſe of the aire and weather: ſometimes by long bathing in cold water, and ſometimes by much uſing narcotiall ointments, and ſuch like. Alſo inwardly this diſeaſe proceedeth of ſalt biting humours abounding throughout the whole bodie of man: alſo by means of ſome hot or cold Impoſtume, or after a Dyſenterie, or Flux, whereas ſome cholerick matter remaineth behinde in the right-gut yet unevacuated. And ſometimes to happeneth here in our Countrey, as ſome Engliſh Writers affirm, by little drinking of beer or ale, and ſometimes it cometh by drinking too much wine, and by eating of coſtive meats, and ſuperabundance of choler aduſt. This diſeaſe is of the nature, or diſpoſition of a Dyſenterie or Flux, but that the Dyſenterie paineth the Patient with grievous tortions through all the guts, but *Tenaſmus* paineth the Patient uſually in the right-gut onely, as appeareth by *Galen* in his third book *De cauſis Symptomat.* And *Trajanus* in his ſixth Chapter, and eighth book, who affirmeth the ſame, ſaying, *Tenaſmus recti inteſtini eſt effectus, &c.* The ſignes and tokens of this diſeaſe are chiefly to be known by the Patients relation of the temperature of the body, ſlender diet, and egeſtions, whether it be hard or coſtive, or elſe thinne or liquid.

Outward as Cold.
Heat.
Drought.
A corrupt aire.
Bathing in cold water.
Necroticall ointments.
Inwardly as ſalt humors.
Too much drinking of wine.
Natu e of Tenaſmus.
Gal. de cauſis & ſympt. lib. 3.
Trajan. cap. 8. lib. 6.
The ſignes of Tenaſmus.

In *Tenaſmus* the pain doth not aſcend ſo high as the navell, but is chiefly felt with heat, pricking, and burning with a deſire of emptying in the end of the ſphincture, the excrements being of a yellowiſh colour in young men (like their ſtarching now adayes) but in old perſons the excrements are of a more pituos, ſlimie and bloodie ſubſtance.

The pain deſcribed.
Another ſigne.

If the diſeaſe proceed of an Impoſtume, the Patient will feel a continuall pain, and the more augmented and grievous when he goeth to the ſtoole.

Prognoſtica.

Tenaſmus after a Dyſenterie is moſt hard to be cured.

Tenaſmus in a woman with childe cauſeth oftentimes abortion, ſobbing, vexing, or the hickoke and is very pernicious, and betokeneth much drineſſe.

Neceſſarie obſervations.

Tenaſmus long continuing, bringeth the Collica and Iliaca Paſſior: Sounding and diſeaſes of the head.

Tenaſmus is not numbred amongſt long nor ſharp diſeaſes, for that it is ſoon cured; and if the Patient do eat and drink well, there is no danger.

The

The cure.

How to cure Tenasmus proceeding from cold.

Tenasmus is cured by taking away the causes thereof, from whence it doth proceed; as if it come by outward cold, then let there be applied to the Ose pecken, and hippes warm, resolving fomentations and applications, as bagges of *millium* with salt, being rosted or fried, or sacks with branne sodden in wine, or water, and so applied as hot as may be suffered, and the fundament and parts anointed with oyles of Rew, Lillies, Bayes, *Vnguentum martiatum*, and such like: *Alexander* in his sixth Chap. and eighth book saith, *Tenasmus* is cured with foments of Fenegreek and the roots of Altheæ, being boiled and injected into the belly, and also the Patients hinder parts well suffumigated with the same decoction, the Patient being compassed about close with clothes, and so set over it, and then the fundament afterward anointed with oyle of Roses, fresh butter, or goose grease, with wax dissolved, Beares and Capons grease, and such like.

Item, A fume of Frankensence and pitch, being cast upon burning coals, and the Patient set close over the fume, helpeth presently.

Item, To give present ease to that pain, let two bags be filled with wheaten-bran, and steeped in boyling vineger, and the Patient to sit thereon so hot as may be suffered, and to change them continually, as the one cooleth to take another.

A speciall instruction in administring a glyster for Tenasmus.

Note that in this disease of *Tenasmus*, no cold things are to be applied at all.

Item, such glysters as are used in this disease should not exceed half a pound, and the glyster-pipe to be put into the gut not above two fingers bredth at the most in length within the gut.

Concerning exitus, vel progressus, vel procidentia Ani, in English, the falling of the fundament.

Children more subject to this disease then old people.

THis disease for the most part is accidentall to our Nation in hot countries, and that chiefly after or in the time of a great flux of blood or humours, although it is manifest it also happeneth in all countries and places, both to young and old, but chiefly to children upon divers severall occasions, which I list not here to amplifie, having no intent to set out my work in painted phrases, for I would onely arme the Chirurgions Mate how to proceed in the cure thereof at Sea, and yet I know the same will take good effect also at land where that disease happeneth.

The Causes.

Cause of the falling of the fundament.

THe causes of this griefe are too many to be named, the signe thereof is manifest, that it is a resolution or a relaxation of the muscles of those parts: whereby the gut slippeth or slideth down lower then the naturall place thereof, namely, out of the body.

The cure of this griefe is for the most part short, and likewise if the

the Patient at Sea be carefull and go not out to the ſhrowds or Beak-head of the ſhip to ſtool, neither in going force the expulſive vertue of his body over much, it will not eaſily fall down again.

It is cured as followeth, namely, at the firſt going out, uſe no other remedie then a warm ſoft clout and thy hands, and gently return it into his due place, and let the party after it is reduced, ſit on a hot board, or have a very hot napkin doubled and applied to his fundament, and another to his belly: but whereas this diſeaſe for the moſt part proceedeth from the fluxes of the belly, in ſuch caſes you muſt proceed to the cure of ſuch fluxes, and that effected, you ſhall hear no more of this accident; but if it uſually fall out, it is the more dangerous, then you may proceed as followeth, ſet the partie over a cloſe ſtoole, and fume the place as warm as he can ſuffer it, with a fume of Thus, maſtick, amber, roſin or pitch, or any one of theſe, and being fumed well and very warm, beſtrew the gut fallen down with *Album Græcum* well powdered, and fine, for this is precious though a homely medicine, but therewith this diſeaſe is cured, and many other infirmities alſo; but there is a great care to be had to the powdering and well ſearſing of the ſame, for that it is often full of ſharp pieces of bones very dangerous: I ſay therefore this being carefully prepared, and applied with warm ſoft clouts and warmed hands put it up, and let the party as it were endeavour to draw in his breath in the doing thereof, for it will with eaſe be brought up: and being thus put up into his place, it falleth not eaſily out again; the ſame effect hath burned Harts horn powdred, or any other hard bones burned into white powder, are very good, powder of Gall-apples or Gals is thereto a good medicine ſtrewed on as the former; Pomegranate Pils powdered doth the like, and Balauſties or Sumach is alſo good, being powdered and ſtrewed thereon. Alſo a fomentation very warm of ſtiptick drying things are good, as for example. ℞ freſh water, heat and quench pieces of iron or ſteel often therein, if it can conveniently be done: if not, onely faire water, a convenient quantitie about a quart, boyle therein the quantitie of one large Gall, put to it a little Allum about ℥ ij. a little *Succus Acatiæ* ſome ℥ ß. or leſſe, cynamon if it may be had ʒ ß. or pomegranate rindes ʒ j. if you have them, or Baulauſties a little, and therewith foment well the part, and after fomentation let it be very gently put up to his place, but French wine or Aligant were better then water for the fomentation. Further, have a great care that whatſoever you uſe by way of fomenting or otherwiſe, each thing be actually very warme you apply, or they will endanger him. It will likewiſe not be amiſſe, if you adde a little good *Aqua vitæ* or *Roſa ſolis* to your fomentation after it is boyled, eſpecially if your decoction be water. Bean flowre is alſo good to ſtrew thereon when you go to put it up, but *Album Græcum* is the beſt thing you can uſe, Maſtick in powder is alſo a very good medicine to ſtrew thereon, uſe as little force, as may be, in putting it up, and have ever readie a Chaffendiſh with fire, when you go about that work, to warm clouts, and your hands alſo. And if you finde it difficult to be reduced, let the partie be ſet

The Cure.

The cure if it proceed of the fluxes of the belly.

The cure if it uſeth often to fall down.

The putting of it up.

The Patients help required.

A Fomentation.

A

A ſpeciall caution.

on

The Patients help very needfull and profitable to himself.
Let the Patient beware.

on his head and hands, with his legges abroad, and it will help somewhat, but beware he ſtand not ſo too long, but rather let him reſt and begin again, or kneeling on his knees and elbows is alſo good, onely let him remember that he draw in his breath, as I have ſaid, for that availeth much, and let him not ſeek to cloſe or draw together his fundament as little as he can, till the gut be reduced to his place. If upon occaſion of the flix you be conſtrained to uſe confortative or reſtringent glyſters, with alſo your Laudanum, you ſhall not need to fear,

How to prevent it in the time of the flix afflicting.

but it will keep up: or if theſe things help nothing, I fear he is hardly to be cured, but they have never failed me, and ſo I conclude to the honour of the Almighty concerning this diſeaſe.

Of the Callenture.

What the Callenture is.

THe Callenture by all my experience, or what I can gather from others, is no other thing then a contagious fever, for the moſt part ſuddenly aſſaulting Sea-men, ſometimes it is with paroxyſmes,

The quality of it.

ſometimes continuall, and hath fits hot and cold in ſome, and that very violent, even to the loſſe of ſenſes and life alſo.

The Cauſes.

The cauſes thereof.

THe cauſes thereof are divers, as namely, the intemperature of the Climate, or degree of the world cauſing an evill habit in the bodies of men, when they come into ſuch contagious aires, The evill nutriment the Sailers have at Sea, ſtrong obſtructions, the abuſe of themſelves in diet and cuſtomes, and divers other reaſons too long to inſiſt upon.

The Signes.

The ſignes.

TO be brieſe, the ſignes are a ſtrong fever, a generall and ſudden diſtemper oft times both of body and minde at one inſtant, or an inclination thereto.

The Cure.

The curation whereon it conſiſteth.

THe Cure conſiſteth chiefly in Cordials, Alexipharmacons or preſervatives, that the animall, vitall, and naturall parts may be defended from the venemous danger of the diſeaſe in evacuation, and in regiment of diet, all theſe being as ſuddenly put in practiſe as time will ſerve, the diſeaſe being ſudden and fierce in it ſelf. An excellent remedie thereunto is a doſe of *Aurum vite*, and ſweat upon it alſo.

Of Cordials.

A Cordiall potion for the Callenture.

A Preſent Cordiall medicine fitting to be given in the Callenture is Venice Treacle or Mithridate ℈ j. or London Treacle, or Diateſſeron ℥ ß. with Syrupe *Limoniorum* ʒ j. Plantane water or fair water, ʒ iij. oyle of Vitrioll ſix drops, or ſo much as to make the drink tart, and one houre or two houres after give him another doſe thereof, and forthwith alſo let him have ſuppoſitory or glyſter given him, and ſo ſoone as he hath had one ſtoole therewith, let him blood reaſonable largely

largely if his ſtrength will beare it, let him alſo have for his diet no other thing for two or three daies but thin broathes, pannadaes or the like; and if it be thought fit to take it, after the ſuppoſitory, a glyſter were not amiſſe to be given him, namely, a decoction of March Mallow roots in water, adding in the end of the decoction of Salniter ℥iiij. of *Species Hieræ* ℥ij. *Oleum Sambucæ* ℥ij. theſe will coole him well and cleanſe him.

And if further need of purging be, give him a doſe of *Aquilla Laxativa*, or *Aquilla vitæ*, a doſe, which in this diſeaſe hath been approoved very good.

The *Aquilla Laxativa* is uſually given in ℥iij. of Plantane or faire water with Syrupe of Violets or Lemmons ℥j. the *Aquilla vitæ* with *Conſerva Roſarum*, with *Diateſſeron*, *Liquorice-powder* or alone. If you ſee theſe courſes reaſonably put in practiſe, doe not give content. I meane the body being open, then in the name of God give him a doſe of *Laudanum*, you ſhall finde it often to procure perfect health without further helpe. For his drinke let him have a decoction of French or common Barley, whereunto ſo much Liquorice, or *Succus Liquoricæ* may be added, as to make it of a gratefull taſte, as alſo for the ſmell, a ſmall quantitie of Roſe or other vineger, and Roſe water a little, and thereto ſo much oyle of Vitriol, as to give it a taſte ſomewhat tart, but not too much: Syrupe or juyce of Lemmons is alſo very fitting to be put thereto if it be to be had in any plentie. But let me adviſe the Chirurgions Mate in all the precedent courſes, that he uſe good diſcretion and moderation, for over purging, bleeding, and much thin diet will be very dangerous at Sea, and will ſurely turne your Patient into the Scurvy: For note this for a generall rule, that almoſt every ſickneſſe at Sea ends in the Scurvy, and the Scurvy oft-times unlades her ſelfe by a Flux with death attending thereon, without Gods mercy, and the Chriſtian commiſeration, diligence and skilfull hand of the Chirurgions Mate, which that he may the better be enabled in all difficult caſes to practiſe and performe his dutie, the God of all glory aſſiſt him with his grace.

AMEN.

His ordinary drinke what it muſt be, and of what it is made.

Good Chirurgian take notice.

Two principall obſervations.

1.

2.

By Gods mercy miſeries are prevented, and Art in curing bleſſed.

A TREATISE OF SALT IN GENERALL: AND FIRST OF the Antiquitie thereof.

Salt ſtare in vegetables.

SAlt was created with the world in the beginning, for that it is eaſie to be prooved, that neither hearb, bud, nor tree whatſoever groweth, which containeth not in it ſelfe a proper and peculiar Salt, which is eaſily and apparently by Art to be ſeparated from the other ſubſtances thereof, and through the wonderfull providence of our Almightie Creator, each Salt hath ſome needfull vertue contained in it for the benefit of his creatures. A further teſtimony of his Antiquitie, the Sea which tooke his beginning, as Scriptures teſtifie, before mankinde, doth produce the ſubſtance thereof being wholly ſalt. And not onely the Sea, but alſo all other creatures of God whatſoever under the whole heavens, whether they doe conſiſt of Animall, Vegetable or Minerall parts, cannot, nor ever did ſubſiſt without a naturall inbred ſalt in them, whoſe nouriſhment and increaſe proceedeth from the earth, water, or ayre, where the ſaid creature breedeth and groweth. Therefore ſince it challengeth a place with the moſt ancient and firſt creation of all things, I need uſe no more demonſtrations, but conclude that the Antiquitie thereof, is as undeniable, and as cleere, as the Sun-ſhine is at mid-day: thus much of the Antiquitie thereof.

Health from ſalt by Gods prouidence.

Scriptures teſtifie.

The Sea and all creatures containe ſalt.

Of the kindes and differences of Salt.

TO intreat of all the kindes and differences of Salt, is a worke ſo difficult and long, that no man whatſoever in the whole time of this ſhort life, can make ſufficient relation thereof, wherefore to avoide tediouſneſſe, I will take a ſhorter courſe: namely, I meane to doe ſomething therein, and leave the reſt for others of better capacitie, that ſhall come after. Note therefore that there are three kindes of Salts in generall, to wit, animall Salt, vegetable Salt, and minerall Salt, and ere I digreſſe or go any further, let me interpret my ſelfe in plaine tearms, to young practitioners in Art, whom alone I deſire to benefit.

Friuolous to write of all ſalts.

Three kinds of ſalt.

The three ſalts explained.

The animall ſalt is underſtood to be that ſalt which proceedeth from creatures that beare life, and have ſenſe & feeling, or mooving, whatſoever, under which are comprehended all beaſts, fiſh, foule, and worme,

worme, &c. under the name of vegetable ſalts, are comprehended the ſalts of trees and hearbs, and whatſoever elſe may grow by ſowing or planting, or any other induſtry of man, as well the ſeed as the fruit, or the plant it ſelfe, or any part thereof. And under the name of minerall ſalt is comprehended the ſalts of all metals, as of *Saturne, Iupiter, Mars, Sol, Venus, Mercurius* or *Luna*: as alſo the ſalts of all ſtones, with alſo all earths and their juyces and extractions, as likewiſe all other Minerall and Terreſtriall ſalts whatſoever, without name.

Thus much in briefe for explaining the three principall kindes of Salts, each of which have a three-fold ſeverall ſubſtance contained in them, viz. *A volatile* ſalt, a fixed ſalt, and a *Caput mortuum*, named alſo *Terra Damnata*, otherwiſe it may be tearmed to containe a Flegme, a ſpirit, an oyle, which againe is called, *Sal, Sulphur*, and *Mercury*, each devideable plainly, & eaſily by Art: Some may here object, that they will draw more then three ſubſtances, each being a good medicine from any one ſubject, either Animall, Vegetable, or Minerall, as for an inſtance from *Mercury*, you may extract infinite ſeverall medicines, inwardly, and outwardly ſerviceable, as namely, you may have from *Mercury* Laxative, Vomitive, Diaphoretick, Diaureticke, cordiall, preſervative, and ſundry other needfull medicines to be miniſtred with great ſafetie and comfort to the diſeaſed, as elſewhere of *Mercury* is noted: which ſpeech may ſeeme very ſtrange to ſome that all theſe, yea and many more varieties and diverſities are found in any one Minerall: but though one ſubſtance make many medicines, yet it confoundeth nothing the *tria principia*, for every medicine is not one principall, neither is there any principall tied to make but one medicine. But to returne being digreſſed, I ſay the kinds of Minerall ſalts uſed at tables, and for ſeaſoning meats, are to be eſteemed three in number: one kinde is the Bay or Sea ſalt, dried meerely from ſalt Sea-water by the heat of the Sunne. The ſecond ſort is that ſalt which we have from the Sea coaſt, or from ſalt Springs at home, made by decoction. The third is the ſalt that groweth concrete, hard and pure in the bowels of the earth, ſuch is the *Sal Gemmæ*, and this laſt is held the beſt, both in meate and medicine, it is in colour like Chryſtall tranſparent, and groweth in great quantity in Polonia, neere the Citie of *Cracovia*, my ſelf having gathered of it in the Mines there.

Answer.

Salts good in meates are of three ſorts.

Of the neceſsitie of ſalt, and of the generall utilities thereof.

NO one thing which the Almightie Creator hath made for mans uſe, excelleth Salt: as well for the ſundry and moſt neceſſary uſes it hath, as alſo for the aboundant vertues thereof, without the which, nothing which is created under the Sunne, as is ſaid, could ſubſiſt in his kinde, beautie or vigor: as for example, man the excellenteſt of Gods creatures, without ſalt preſently putrifieth, or at the leaſt falleth into ſome extreame diſeaſe, yea a ſmall diſtemper in the Animall ſalt of man is able to kill the ſtrongeſt man, which the ſimpleſt may in his owne reaſon comprehend and know. And who liveth which at ſome time or other hath not taſted his owne bloud, either from his

The neceſſitie of ſalt in all things.

Example.

How to diſcerne ſalt in man.

gums or his noſe bleeding, or otherwiſe, whereby he is able to affirme the ſame bloud to be ſalt. I thinke none will deny it, but if any will be ſo ſimple or obſtinate, then let him taſte his owne urine, and there queſtionleſſe he need not doubt to finde it ſalt: but without contradiction, the whole maſſe of mans body is full of ſalt, and if thou wilt not by all this reaſon be perſwaded to beleeve it, then ſearch artificially, and thou ſhalt finde, yea two kindes of ſalt in mans bloud, and ſo in all other creatures which beare life and have bloud as well as man, namely, a Volative ſalt, and a fixed ſalt, which ſalt I ſay wanting in the body, that living creature which wanteth it preſently putrifieth.

Ce taine evils befalling man wanting ſalt.

Some alſo we ſee that by a ſalt rheume in their eyes loſe their ſights, ſome by a ſharpe ſaltneſſe in the urine, dangerous accidents enſue: ſome fall into the Scurvy, ſome have the Dropſie, ſome the Leproſie, with infinite other the like offences hapning by the diſtemper or want of the Animall ſalt: the examples are very common; *Nihil ſale & ſole corporibus hominum utilius*, ſaith *Paracelſus*; nothing is more profitable for mans body, then the Sunne and Salt. It is the moſt precious Balſam for mans life in health, it maintaineth health and keepeth mans food from putrefaction in ſickneſſe, ſores and aches, few medicines to be compared to it: Minerall ſalt being brought to an examen in the fire, firſt from it is by Art exhauſted a thin Minerall Phlegma, called the Mercury or fleagme thereof: which paſt, then there ariſeth a moſt fragrant ſpirit which openeth Minerall bodies, and breaketh up gold and ſilver to make them potable, or otherwiſe according to the will of the diſcreet Artiſt, in which ſpirits is comprehended the chiefe medicine: the reſidence whereof, containeth the fixed ſalt, and the feces thereof: the feces are meerely good for no uſe at all, that I know, and therefore of Chymiſts are called *Terra Damnata*. *Paracelſus* ſpeaking of the neceſſary uſes of common Minerall ſalt, affirmeth it to be the true Correcter of all kindes of meats, and ſaith further, that meat, though being of meane nutriment, yet if it be well ſalted, nouriſheth much: for he is of opinion, that whatſoever meat is either eaten without ſalt, or but meanly ſalted, turneth for the moſt part to the offence of man, and breedeth diſeaſes, as the falling ſickneſſe and other great griefs: for, ſaith he, ſalt mightily helpeth digeſtion, and concoction, and likewiſe comforteth all the faculties of mans body, it is the Balſam of the earth, whereby mens bodies are preſerved alive, and ſo of all creatures which containe bloud in them, yea and all inſenſible creatures alſo, as Vegetables and Minerals have their peculiar ſalt, which keepeth them in their vigor and ſtrength from common putrefaction. *Ioſephus Quercitanus* affirmeth ſalt to be a ſpur to all medicines, both outward and inward, with which it is mixed, ſtirring them up and quickning them, the better to performe their offices, and the longer to retaine their vertues, by preſerving them from outward putrefaction of the ayre.

Salt preſerveth from putrefaction.

Salt helpeth digeſtion, and comforteth.

Salt the Balſamum of the earth.

Temperature of Salt in generall.

The temperament of common ſalt.

COmmon ſalt by the moſt opinions of the learned Writers is hot and dry, ſome affirme in the ſecond degree, ſome in the third, this being

being ſpoken concerning common ſalt as it is uſed in meat and medicine without any further preparation: but let no man attribute to all ſalts one temperament, which I ſuppoſe none which is diſcreet will, becauſe then he ſhould miſtake himſelfe; for without all contradiction, no temperature can be named, but ſome ſalt may eaſily be proved of the ſame temperature, wherefore it is ſaid concerning ordinary ſalts for meat uſed, whether they come from Sea, or from ſalt water by decoction, or from the ground without mans Art as ſalt Gemm doth, or from the ſalt ſprings within the land, as our Worceſter-ſhire ſalt doth: yet all thoſe have no manifeſt differences in their temperature, but may be ſaid to be hot and dry, and yet according to the ſtrength of them they may one exceede another more or leſſe in degree.

Divers ſalts diverſly qualified.

But ſalt-Peeter which is of excellent uſe for medicine, as alſo for very many needfull occaſions otherwiſe, whoſe ſubſtance and quality are wonderfull beeing conſidered, yet it is apparent that the temperament thereof is could by the effects, for it doth coole the violent boyling of the bloud, no otherwiſe then if a man ſhould coole fire with water, and yet his chiefeſt ſubſtance is ſpirituall, volatile, and combuſtible, if it be pure: but in truth all mineralls ſhew themſelues in operation to be ſpecificall, & not truly to be diſtinguiſhed by their heat or cold: & as for the ſpirit of common ſalt, the medicinall effects thereof are cooling the bloud, quenching thirſt, corroborating and refreſhing the ſtomack, &c. the taſte thereof being almoſt like the oyle of Vitrioll, or rather, like good juice of Lemmons.

The quality of Salt-peeter.

The ſubſtance of ſalt-peeter

Further, the ſalts of animal and vegetable creatures may very well be ſaid to have their ſeverall temperaments and differences, each according to his owne kinde, as the ſalt of wormwood is eſteemed hot and dry like the hearb, and ſo of many other hearbs in like manner may be vnderſtood.

Somewhat of the healing vertues of common ſalt.

Common ſea-ſalt, boyled in the ſtrongeſt beere to the conſumption of three parts of the ſame beere and being made ſalt as brine, is an excellent bath to eaſe the pains of the gout, as my ſelfe have proved often. It is alſo good to cure the *Serpigo* of the hands, Tetters of hard curation. *Paracelſus* ſpeaking of the vertues of ſalt, ſaith as followeth. All thoſe which are vexed with any diſeaſe, proceeding of groſſe crudity, or naturall humidity, as rheumes, itch, ſcurfe, ringworms, or the like noyſome griefes: let them make a bath of common ſea-ſalt, and ſtrong beere boyled together to a third part, and as warme as they can poſſible indure it, ſit in it & ſweat therein, & after go to a warm bed & ſweat againe, & doing ſo ſundry times, they ſhall feele help thereby: I have had credit by it when divers greater medicines have failed me, eſpecially in the paines of the gout & other aches, I have don much good with it & further, ir is ſo harmles a thing, that nonneede to feare the uſe thereof: whereas many other kinds of bathing, although they be good in one kinde, yet hurt in a nother, but

Good for the Gout

Serpigo. Tetters.

good for could Aches

The body to be purged before it be with a salt bath bathed.

but this is meerely harmeleſſe to any, provided withall, before the uſe of this bath, a due preparation and purgation of the body be thought upon.

The vertues of this Lixivium.

Moreover, there is an ordinary *Lixivium*, made by expert Chirurgions, for the healing of Ulcers, which is Mundificative, Abſterſive, Diſcuſſive, and very Sanative, performing much in Chirurgery, the chiefe ingrediences whereof is vegetable and minerall ſalts made by decoction with vulnerary herbes in faire water to a iuſt conſiſtence: this *Lixivium* in Tumors, Ulcers, Fractures, Diſlocations, as alſo in great Contuſions, Obſtructions, Gangrenes, and many other like infirmities, is a very good and ready medicine, the deſcription whereof is ſet downe in the cure of fractures.

The cauſticke ſtone is made of ſalt.

Alſo the cauſticke ſtone, called commonly *Lapis Infernalis*, is no other thing, then meerely a vegetable ſalt, the vertues and making whereof, is not proper in this place to be ſpoken of, but ſhall in an other place be mentioned. Thus much at this time concerning common ſalt.

Of Vitrioll or Copperas in Generall: And firſt what is Vitrioll.

Vitriall called in Latine, *Calcanthum*, in Engliſh Copperas or Vitrioll but more commonly called Copperas, is a minerall ſalt, which for the worth and Vertues thereof doth farre excell many other kinds of ſalts, ſo that not without great reaſon, that worthy *Theophraſtus Paracelſus*, who had truly anatomized that ſalt, affirmed and often repeated, that the fourth part of Phyſick was contained in this Minerall ſalt, from whence the ſame author alſo, not unfitly, doth compare it to wood, of which divers formes may be formed, and divers inſtruments alſo may be made for divers operations and effects for out of this ſalt many ſubſtances may be extracted & prepared, & many good medicines may be compounded, quite contrary in operation, and utterly diſagreeing in effects from each other, as for example out of this Minerall ſalt, medicines of great efficacy may be made, as well in purging, as alſo ſudoriferous or diaphoreticks, Cordialls, Anodines, Narcotick, Stupefactive, Stipticke, Corroſive, Abſterſive, Repercuſſive, Mundificative, and Sanative medicines, as alſo againſt the Epilepſie, or falling ſickneſſe and ſuffocations of the Matrix, good medicines are to bee prepared thereof, and how theſe or ſome of them may be made by Art, and of their vertues, as time ſhall ſerve by Gods helpe I have determined briefly to declare heareafter.

A compariſon between Coppras and wood.

The divers vertues of Coppras both inward and outward.

But I confeſſe I am not able to diſcover the fourth part of the great vertues of this worthy ſalt, for I daily meet with ſome new medicine therein worth the noting.

Of the different kindes of Vitrioll.

Vitrioll or *Copperas* we may have in England of ſixe, or at the leaſt of five kinds, namely *Vitriolum veneris*, or Copperas made of Copper, which in diſeaſes of the head farre exceedeth others

as

as writers affirme, and this kind may eaſily be prepared and cheape, as hereafter ſhall be ſet downe.

The next thereto in vertue is that kind of Copperas which grows in Hungaria, which to my knowledge wee cannot well have in England, though ſome will affirme they have of it.

The thirde ſort of Copperas that is praiſed is the Roman Vitrioll or Copperas, in a place whereof we doe buy a kinde of blew Copperas in London, which is not the true Roman Vitrioll.

The fourth kinde is brought from Goſler, a Towne in Germany neere to the City of Brunſwich.

The fifth kind is commonly brought from Dansk and is ſomewhat yellowiſh.

The ſixth and laſt, or worſt, is our owne common Engliſh Copperas. Theſe are all the ſorts ordinarily to be bought.

Coppras of diuers colours.

Though indeed many waies, and of many colours copperas may be made, yea and of many ſubſtances, rs well from munerales ſtoones as earthes which if time would ſerve, and that it were to the purpoſe, ſhould be further ſhewed; but to bee ſhort the Copperas I would chuſe for my uſe, is that which cometh from Goſler in Germany, it is to be had in London, and is not dear, and is ſufficiently good to draw a ſpirit or oyle from, or to make any medicine for inward uſes, but for outward ordinary uſes, the common ſort of Copperas will ſerve well, and ſo it will doe reaſonable well for oyle, but not yeeld ſo much.

What Coppras for outward uſes beſt.

Note that the beſt Copperas as is ſaid, is made of Copper, or of the Minerall of CoPper. Note further that all copper and braſſe will wholly be converted into Copperas, yea & turne againe into his owne firſt ſubſtance, namely into copper or braſſe againe, though with loſſe. Alſo iron and ſilver will make good Copperas, ſo will divers ſorts of ſtones and earths be converted into good Copperas, and ſprings neere Copper mines, they doe make Copperas of, much after the manner that ſalt peeter is made.

The way to make Vitriolum Veneris, or Coppras of Copper, is as followeth

℞ THin plates, or rather filings of Copper, what quantity you pleaſe, and Brimſtone of each a like quantity, powder the Brimſtone, and mix it with the Copper, put theſe into an earthen pan unglazed, and place them in a Char-coale fire in a Chimny and let them gently heat together till the Brimſtone take fire. Then with an iron ſtirre it a little to and fro till all the Brimſtone be conſumed: then take it from the fire, and being cold caſt it into a gallon or leſſe quantity of faire water, and it will make the water greene, and in taſte like Coppras; poure off that greene water, filter and keepe it, and ſet the ſame Copper to be made drie againe on the fire, which done, mixe it with more Brimſton, and burne it, & quench it as before, continuing ſuch worke, till all the Copper bee conſumed and turned into a pleaſant blew or greene water: then mix and boyle the waters till halfe or more

A note of the true height of the decoction.

more be consumed, and set them to coole, and being cold, if it be sufficiently boyled, you shall finde Coppras therein; if not boyle it more, and the Coppras will appeare: then take away the said Coppras which you finde, and lay it to dry, and boyle the remainer of the water againe, and there will be more Coppras: take still the Coppras each time out, laying it to dry, and doing so till all be made into Coppras. This is the best kinde of Coppras, it is in colour of a pleasant blew, and is easily to be made, and will yeeld a good quantitie, namely, one pound of Copper, if it be artificially prepared, will make three pounds of Coppras.

Of Phlegma Vitrioll, or of the first water drawne from Coppras.

The rules in this worke.

Phlegma Vitrioli is made as followeth: ℞. Coppras, put it into an Alimbecke, and place it according to Art in the highest degree of B. M. namely, in a boyling water, drawing thereby from it all the humiditie which by B. M. will be exhausted, provided you fill your Alembecke but two third parts full of Coppras, when ye put it to distill. This liquor as *Angelus Salus* a late *Italian* Writer affirmeth, is good against paines of the head, proceeding of heat, namely, the dose being two drachmes taken fasting for certain daies together. It swageth also the burning and boyling of the bloud. It strengtheneth all the bowels. It confirmeth the braine weakened with superfluous heat by the daily use thereof in the Spring time, the stomack being purged a little before. Also it maketh a moist braine temperate. This first medicine of Coppras was by the Ancients not knowne: my selfe I must confesse have made no great use of this medicine, onely I have used it as a cooling water against the heat of the stomack, and sometimes have found it good, as also to foment warme with it for any sudden inflammation in any outward part of the body, due Evacuations first considered of. The said Author ascribeth many more vertues to this first Phlegma, or water of Coppras, which, for that I would be loth to waste time, I will not trouble the Reader with.

The vertues of Phlegma Vitrioli.

The Author his experience thereof.

Of the preparation of the second water of Vitrioll, commonly called Spirit of Vitrioll.

Rules in the worke.

THis first recited water being well rectified, separated, and kept apart: then take the glasse, Alembeck mentioned, containing the Vitrioll, from out of the B. M. and place it in Arena, or a furnace with sand according to Art, the Vitrioll within being first made into fine powder, and distill it therein so long till all the rest of the Humiditie shall be drawne from it which the B. M. had not force to exhale. This second water, you shall perceive to be a cleere and odoriferous water, onely remember that thou force not the water over strongly, but doe it by a gentle fire.

The effects.

This liquour is good to purge the reynes: it appeaseth inward fretting

ting and gnawing pains, taking one drachme thereof in the morning fasting with flesh broth.

It also causeth store of urine, and moderately provoketh sweat. It ceaseth the inflamations proceeding of blows or stripes taken in warm broth, and mittigateth the pain thereof, but if your fire be too strong, your liquor will come over so strong, that your dose must not exceed ℈ j. at the most: wherefore be warie thereof, for a good medicine evill handled, may do much hurt, and so will this if you want judgement to use it. In times past they were wont to calcine Vitrioll till it was red, whereby it was deprived, not onely of the first, but also of this his second moist and most spiritfull substance, but that was used by them chiefly, when onely they intended to prepare the sharpest spirit, or strongest oyle of Vitrioll, which strong oyle of Vitrioll hath all the vertues hereafter recited and many more.

A Caution.

How the Ancients prepared this Vitrioll for the spirit.

The vertues of the strongest oyle of Vitrioll.

IT helpeth the infirmities of the Lights, with the water of Fennell or fumitorie. It cutteth away the melancholy humours from the stomack, with Balm-water, and comforteth the stomack after a wonderfull manner, and doth defend the whole body from inward Apostumes and inflamations, and therefore it is used with good successe in the Pluresie, as also in vulnerarie drinks it is approved good, for it attenuateth the blood wonderfully, and defendeth the parts grieved from fear of Gangrene or putrefaction of the blood. It conglutinateth ruptures as well of bones as veins, and doth exceedingly corroborate and comfort all the parts of mans body, and may well be numbred as a principall amongst cordiall medicines. It is also a very good medicine not onely in preventing the Scurvy taken inwardly, but also in the cure of the Scurvy many wayes, both inwardly taken with any comfortable wine, or with beer for need, or to make a Beverage therewith, and daily to use it in small quantitie, namely, foure drops for a dose. In the Callenture it excelleth all other medicines taken in Plantane, Sorrell, or any other good cooling water, or onely in faire water. Other convenient courses judiciously held, as namely, to procure to the party by suppository, glyster or potion some loosenesse of body, with also phlebotomie in due season, and quantitie according to judgement.

It helpeth the Scurvy.

Callenture.

A Caution.

And likewise observing that a dose of *Laudanum* is in such cases a fit help, laying the partie to rest: a loosenes of the belly, I say, first had by nature or art. Moreover, for the overgrowings of the gummes in the Scurvy, Vitrioll or Coperas hath no fellow, namely, a strong decoction of Vitrioll, with a little *mel*, or *mel rosarum*, and the gummes after they are let blood well rubbed therewith very hot, helpeth well. Also if a stronger lotion be required, you may touch the rotten gums warily once with the oyle it self, but beware you touch not the whole skinne with the oyle recited or strong spirit, for if you onely but rub the teeth therewith, it is hurtfull, for it will offend and much decay them,

The gums overgrown.

A Caution.

them, although I confeſſe it maketh them white, I have had the experience thereof, as well by making black teeth white, as alſo in lotions for the teeth: wherefore I know that the much uſe thereof conſumeth the teeth, in ulcerations of the throat or mouth that reſiſt ordinarie cure, by other good lotions uſuall; touch the ulcerated part warily but once therewith, and then the ulcerations will heal very faſt afterwards with any ordinarie medicines and helps, remembring as cauſe ſhall require, to uſe due evacuations or phlebotomy. Alſo this ſtrong ſpirit is good for inflamations of the throat, namely, againſt *Squinancie* or *Angina* uſed certain drops in a fit Gargariſme or Lotion, namely, to make it ſomewhat ſower, and then gargarize warm therewith, for it mightily quencheth inflamations, and tempereth well the bloud, and being likewiſe a little thereof given to drink, namely, ſix drops in ſuch a caſe, it is much the better, alwayes remembring that all ſuch diſeaſes require looſeneſſe of the belly, and ſometimes phlebotomie.

Vlcerations of the mouth and throat.

A Caution.

Inflamations of the throat.

A Caution.

Moreover in ulcers and fiſtula's ſcarce a better medicine is found, to enlarge a ſtrict orifice, remove a callow, or truly to correct and prepare any inveterate Ulcer to good healing, onely by touching it with lint on the end of a probe, thereby putting the medicine to the place where the cauſe is. This ſtrong tart ſpirit or oyle of Vitrioll is almoſt generally in all purgative medicines, a notable corrective, and, as it were, a good help to them to do their office, for it comforteth the whole body, and it giveth a grateful taſte almoſt to any medicine.

Vlcers and fiſtula's.

Purging medicines.

It is alſo good to a weak ſtomack oppreſſed with phlegme or ſlime, and helpeth appetite taken in conſerve of roſes, it hath infinite other vertues too long here to relate, and indeed above my reach to ſearch out.

A bad appetite.

There is no medicine more precious in peſtilentiall fevers, then this ſtrong oyle or ſpirit is, my ſelf have often uſed it to others in that caſe, and taken it my ſelf with good ſucceſſe.

Peſtilentiall fevers.

The true and utmoſt doſe is onely ſo much thereof, as may make the vehicle or medicine wherein you give it ſomewhat ſower, but not too tart, for no man can ſay juſtly, give five, ſix or ſeven drops, for that one ſort is five times ſtronger then another: but when either your purge or other medicine is ready to be adminiſtred, adde certain drops thereof to alter onely verie little, the taſte ſower like, but in the Callenture, ſtrong fevers, or peſtilentiall fevers, a greater doſe may well be taken, according to diſcretion and judgement; but take this caveat for a fare-well in the uſe thereof: note that if you put it into a medicine liquid, it will ſink down to the bottome, ſo that when you give it ſhake it, otherwiſe you may leave the moſt of it in the glaſſe behinde, and when you mix it with a quantitie of Barley water or Julep, whereof you intend to make many doſes, deceive not your ſelf, for if you never ſhake and ſtirre it, the laſt doſe will be unreaſonable to be taken, and dangerous.

Of white Coperas.

WHite Coperas is easily made of other kindes of Coperas, it is generally called Vitrioll, or white Vitrioll in English, as if it were worthie a higher or more particular name, or respect, when in truth, as white wax is made of yellow wax, by the bleaking it in the aire, and washing it oft: so is white Coperas made of green Coperas, and is thereby, in my conceit, the weaker, onely the superfluous humidity is thereby evaporated, and it begetteth a new kinde and shape, in all lotions it may serve in place of the other kindes of Coperas, but to draw spirits from, it is weaker then any other coperas that I know.

Whereof and how it is made.

White Coperas weaker then green.

The chief uses I have made thereof, is for Collyriums or Lotions for the infirmities of the eyes, namely, against itchings, akings, smartings, defluxions, and ophthalmia's of the eyes, wherein I finde it to exceed either *Lapis Calaminaris*, *Tutia*, or *Camphire*. The salt thereof maketh also a singular vomitive medicine, which I first learned out of the daily practise of that worthie and famous Physician Dr. *Peter Turner* dwelling in St. *Hellens*, who highly commended it to me, and I have found it worthy his commendations in many great infirmities, the dose is from ℈ß. to ʒß. and to ʒij. it is safely given.

The vertues thereof, for the eyes excell any other medicine.

The Salt is vomitive.

It may very well be taken in Betony water with sugar, or in want thereof, in faire water with Rose-water, one spoonfull. It is good against the falling sickness, and in divers occasions of purging the head, also in fevers proceeding of crude and undigested humours. It provoketh appetite. One receit of my experience for outward infirmities of the eyes, I will here bestow upon the Chirurgions Mate made of white Coperas, which is as followeth. ℞ *Vitriolum Album* in powder ʒj. one new laid egge, or sound egge, boyle the egge hard, shell it, and cleave it through, and take out the yolke, and in place thereof put the powder of coperas mentioned, and let it so remain closed together two hours or more, then put it into a clean soft ragge, being still so closed together, and strain it hard, and a water will come out which is green in colour, keep it in a glasse close stopped, and when occasion is, drop one drop or two at once into the grieved eye. It is good in many infirmities of the eyes, and it will keep seven yeers without putrifying. It cureth all itchings, smartings, immoderate rheumes, the Ophthalmia's in their beginnings, with many other infirmities happening to the eyes, and it strengtheneth well the sight. Thus much for this time of white Vitrioll or Coperas.

The effects of the Salt are for the falling sickness. Fevers. Stomack.

A receit for the eyes ill-affected.

Of burnt Vitrioll.

THis is made as burnt allum is, of any sort of coperas, and is of great use in Chirurgerie, namely, to abate spungie flesh in Ulcers, and also in all restrictive powder for staying of fluxes, and it helpeth well with other fitting simples to siccatrize, and also in Lotions and Gargarismes; as is said, it is of good use.

The use of it.

Of Liquor, or rather Mel Vitrioli.

The vertue. THis Liquor, or rather honey prepared from Coperas, ſo called, becauſe it is in thickneſſe and colour not unlike honey; It is an excellent remedie againſt any lacrymous or weeping ulcers, or fiſtula's, to ſtay defluxions of humours in them, for it is very aſtringent, *whereof it is made.* and doth well fortifie a weak member, it is made of calcined Vitrioll infuſed in ſpirit of wine, and the tincture of the Coperas thereby *Other effects.* drawn out, and then the ſpirit of wine evaporated *per B. M.* and ſo it is excellent for to cure rotten gummes, or any putred or corraſive ulcers of the throat or mouth, or elſewhere, and hath many other ſpeciall vertues, which when I ſet down the preparation and uſe of my other chimycall medicines ſhall be further handled.

Of Colkethor or Dead-head.

The kindes. FOr want of time I here come to the laſt medicine of Vitrioll ere I have touched the fourth part. This Colkethor is of two different kindes, the one is from the feces of *Aqua fortis*, and the other from coperas, after the ſtrong oyle is extracted from it. The firſt is moſt in uſe amongſt Chirurgions, and indeed is moſt forcible, becauſe therein is a great part of the fixed ſalt of Salt-peeter, and of Allum mixed with the coperas; it is a medicine aſtringent by reaſon of the coperas *The force or effect of Colkethor.* and allum, and abſterſive by reaſon of the Salt-peeter, and therefore it is good for to prepare ſtubborn ulcers to a ſiccatrize. Thus for this time I conclude of Coperas.

Sal Abſinthii.

The doſe for a peſtilent fever. SAlt of worm-wood is a cordiall medicine, and is very neceſſarie in the Chirurgions cheſt. It is very good againſt the heat of a burning and contagious fever, ℥ ß. thereof taken in a decoction of Centaury beſt, or in Plantane, or faire water, to which for to amend the taſte, you may adde ſugar a little: give the partie at the leaſt three doſes of *The doſe for the Dropſie.* the medicine at ſeverall times, and ſweat thereon: you ſhall finde it an excellent help alſo in the dropſie or ſwellings of the Scurvie, ℈ j. thereof given firſt & laſt on a piece of toſted bread for five daies together. It is good and fit to adde a few grains thereof into every cordiall, *The qualitie.* for it is Diaphoretick, Diauretick and partly Laxative. It is a very *The doſe for a Quotidian.* good medicine againſt a quotidian fever, ʒ j. thereof taken in Centaury-water, or rather in a decoction of Centaury and ſweat thereon. *Good for ſtopping of the urinal paſſages.* In all ſtoppings of urine, it is a ſure good medicine taken in wine. Thus much for this time for *Sal Abſinthii.*

Sal Gemmæ.

SEarch in the differences and kindes of common Salt for *Sal Gemmæ.*

Sal

Sal Nitri

IS the Chryſtalline ſalt purified from groſſe Salt-peeter, known to be pure by that it doth contain no common ſalt therein, being alſo wholly combuſtible of temperament, it is either hot or cold, as is plainly ſeen by his office and vertue: do I ſay vertue? yea and vice both, I may ſay, for in truth for wounding and killing ſalt goeth beyond *Mercury*, this is the dangerous part of gun-powder, which giveth it the force of piercing to the heart, which God deliver all Chriſtians from feeling it, and accurſed be that helliſh Germane Monk which taught it firſt in Europe. This *Sal nitri* is either animall or vegetable, or both, and may alſo not unfitly be tearmed minerall, growing in mines, and it is every where, for every creature living may be ſaid to have a part thereof: man and beaſt, I am ſure hath a great part of it. It is a moſt medicinable ſubject as any is in the world, and no man can live without it, for our blood and urine hath it in it, yea, and our very excrements are mixed therewith, it is alſo in caves, in mountains and plains, and where not?

The purity.

The Nature.

Germane Monk Europs Doctors.

Sal Nitri of two ſorts.

The ſpacious kingdome of Sal Nitri.

But to leave ſuch diſcourſe, whereto I have not appointed this little time, I ſay, *Sal nitri* in the Chirurgions cheſt is a worthie medicine, and the purer it is, the better it is for all uſes: Touching the inward uſes thereof, it is good againſt Hemoragia, or bleeding of a vein, whether it be by the noſe, or any inward vein of the body, taken ℥j. diſſolved in Plantane or faire water.

The inward vertue of Sal Nitri.

The doſe for Hemoragie.

In the Callenture it is approved good to coole the boyling of the blood taken as aforeſaid, the doſe for a need, if the heat be great, may be given every four houres, or the partie may have a barley water rather made, wherein two drachmes or more may be diſſolved to drink at will, it will not offend him, onely if he take too great a doſe at once it may cauſe him to vomit, but it will not hurt him. It is the beſt thing I do know for the furring of the mouth and the throat in fevers, the place gently waſhed therewith diſſolved in water, it preſently bringeth away all the whiteneſſe and furring, without offence. It is not ungratefull of taſte: but ſo ſoon as you have taken ſuch furring away, I adviſe you that you have readie ſome gentle ſanative lotion to inject, to take away the acrimony thereof, for it is abſtergent, and yet without violence or danger, you may uſe therefore the ordinarie lotion one part, faire water two parts, and ſo inject to cleanſe the mouth after the uſe thereof. I have expreſſed other uſes of *Sal Nitri* proper in the cure of the Scurvy, to which I referre the Reader.

Helpeth the Callenture.

The doſe.

Cleanſeth the mouth furred, uſed in water.

The mouth cleanſed a Lotion needfull.

CERTAIN

CERTAIN PLAIN VERSES

for the uſe of young Chirurgions by the *Author gathered, in praiſe of Salt.*

SAlt with the world did begin,
whoſe end exceedeth time:
In it lie hidden ſecrets rare,
which no tongue can define.

Our Saviour his diſciples deere,
to Salt did oft allude:
Who by their bleſſed voices fill'd
the earth with ſpirituall food.

Salt many jewels farre exceeds,
ſalt guideth health and life:
Salt Author is of all increaſe,
'gainſt ſalt there is no ſtrife.

Salt and his force, his place, his time,
his power in life and death,
His choice, his change, his actions ſtrange
admire we may on earth.

What living creature can want ſalt?
what plant or tree may grow?
What metall perfect doth endure
if ſalt it do forgo?

His ſeverall kindes are infinite,
his vertues without number:
His quantitie ſo large in all,
as to man ſeemes a wonder.

The aire, the earth, the Ocean deep,
with ſalt are ſeaſoned ſo:
As wanting it fowl, beaſt, nor fiſh,
nor man could breath I know.

And

And for one inſtance, doe but note,
in bloud what taſte you finde:
Note urine eke how ſalt it is,
if it digreſſe not kinde.

Yea ſweat and ſpittle though they be,
but excrements indeede,
Have ſtore of ſalt, which thing we finde
by nature ſo decreed.

The earth produceth ſalt in all
her creatures more and leſſe:
Yet different each in ſome degree,
experience doth confeſſe.

Both hot and cold, yea moiſt and dry,
is ſalt in temperament:
Yea volatile and fix alſo
obſerving each intent.

Some ſowre, ſome ſweet, ſome ſharp is found,
ſome bitter eke in taſte:
Yea liquid, ſolid, corraſive,
and purging ſalt thou haſt.

All colours ſtrange in ſalt are ſeene,
true healing therein ſtands:
And poyſon ſtrong abounds in ſalt,
ſalt loſeth metals bands.

The ſpirit of ſalt makes liquid *Sol*,
and *Luna* at thy will:
That potable they may be wrought,
a work of worth and skill.

By ſalt are cured many griefes,
though hidden and profound,
Yet the exceeding uſe thereof
is certainly unfound.

Salt doth preſerve the food of men,
that travell farre by ſea,
And ſeaſoneth well our meates at home,
which elſe would ſoon decay.

Of gaine that doth thereby ariſe,
all people have a part:
It maketh barren land beare fruit,
which cheeres the Plough-mans heart,

The

The Marchant is enricht thereby,
and all that fiſh in lakes:
Great ſtore of food is gain'd by ſalt,
all things it ſavory makes.

In Phyſick and Chirurgerie,
it hath the greateſt part:
It doth contain an eſſence true,
which glads the fainting heart.

It cauſeth appetite at need,
it quencheth thirſt at will:
It ceaſeth pain of raging gowts,
it fevers hot doth ſtill.

Thereby are bleeding wounds made well,
and that without delay:
Yea, ſordid Ulcers it makes ſound,
and tumors takes away.

For meat and medicines there's not ought,
with ſalt compar'd may be.
Wherefore I'le ceaſe to praiſe a thing
above capacitie.

God grant we all may ſeaſoned be,
with ſalt devoid of ſtrife,
That while we live we may do good,
and gain eternall life.

Sal metallorum, eſt lapis Philoſophorum.

OF *SULPHUR.*

Sulphur is generally taken for every fattie, oylie, or any way combuſtible part of any creature, whether it be Animall, Vegetable, or Minerall, namely, in Animall it comprehends *Adeps*, *Axungia*, *Pinguedo*, and what elſe is combuſtible. In Vegetables it includes *Roſine*, *Terebinthine*, *Gum*, *Oyle*, *Waxe*, *Vinum Ardens*, or *Aqua vitæ*. Touching Minerals or Mettals, it includes all ſorts of Bitumens, with alſo the oyles of Mettals, as of Gold, Silver, Iron, or any other, together with all ſorts of Brimſtone. Alſo it comprehends all ſorts of Minerall ſalts, I meane their oyles, as the oyle of Vitrioll, of Allom, or of common ſalt, &c. And further it is to be conſidered, that every Animall, Vegetable, or Minerall ſubſtance whatſoever, is ſaid to containe his owne peculiar and different Sulphur, as for example, in wine or beere, or any other liquid thing Vegetable, that ſpirituall part which is combuſtible, though it be liquid, is termed the Sulphur thereof, viz. *Aqua vitæ* is the Sulphurous part of Wine, and ſo alſo of Beere is to be underſtood.

Sulphur is taken in generall three manner of waies.

A ſpeciall obſervation.

Example.

A generall rule.

of Sulphur in particular.

Sulphur in particular is that uſuall Sulphur or Brimſtone which with us is common, of which Artiſts make divers excellent medicines, viz: *Flos*, *Oleum*, *Lac*, *Arcanum*, and *Balſamum Sulphuris*, as alſo *Eſſentia Sulphuris*, with many other profitable preparations.

What it is.

This Sulphur or Brimſtone is tearmed the Balſam of the Earth, of ſome others it is tearmed a Minerall Terbinthine, of other ſome a Roſin or Gum of the earth, and is plentifull in all the world, for if you but note for one meane inſtance, the Sea-coles, as we terme them, which we burne, even they are full of Brimſtone, whereby they kindle ſo ſoone, and burne ſo noyſome, that were they not burned in Chimnies, none could live and indure their Sulphurous fume. As alſo the Turfes in ſome places uſed for fuell, and generally, all the earth is repleniſhed with Brimſtone.

The divers appellations of Sulphur.

The plentie of Sulphur.

Moreover note, that there is no Mettall, whatſoever it be as is ſaid, but containes a naturall Sulphur in it, otherwiſe it were no Mettall, for in truth many of the ancient Writers doe affirme that Sulphur is the Father of all Mettals, and notwithſtanding all Mettals containe a

Sulphur the Father of Mettals.

part of Brimſtone or Sulphur in them; yet we ſee Sulphur or Brimſtone alſo to be an ordinary ſubſtance of it ſelfe, without the helpe of any Metall to it. Further it is apparent that Sulphur or Brimſtone is of many different kinds as is ſaid, and thus much briefly of Sulphur or Brimſtone.

In praiſe of *SULPHUR* or *BRIMSTONE.*

THis Sulphur from the Horrid deep,
dame Nature did ordaine,
A fearefull ſcourge for ſinne to be
as Scripture doth explaine.

A taſte whereof we may perceive,
for his infernall fire
Hath millions ſlaine in towne and field,
by *Mars* his furious ire.

Yet though it ſeeme moſt mercileſſe,
our God will have it ſo,
That from the ſelfe-ſame ſubject ſhall
great choice of medicines flow.

Yea it one chiefe mongſt three is held
in all that live and breath,
And Vegetables it maintaines,
yet burnes in Caves beneath.

A Father it is of Minerals,
Philoſophers ſay ſo,
By help whereof they 're made concreat,
from Chaos whence they grow.

The Sulphur that's in Animals,
in fatneſſe chiefly ſtands,
Each odor be it good or bad,
is linck't in Sulphurs bands.

The Vegent Sulph'urs many are,
each anſwering to his kinde,

Some

to the top of the helme or head of the Still, together with the ſpirits of ſalt, leaving the ſubſtance of the ſalt, as alſo the Colcother in the bottome of the glaſſe which is therby ſaid to be ſublimed, yet nevertheles though it ſeeme eaſily to be made, let none attempt to make this medicine without good direction or experience, for there is no ſmall danger in the working thereof, and yet it is a good medicine well uſed, and hath much helped the Surgeon in the outward cures of deſperate diſeaſes, as namely fiſtulaes and rebellious ulcers.

The ſubtle quality of Quick ſilver.

Of Precipitate.

Precipitate is alſo Quick-ſilver diſtilled in *Aqua fortis*, which by reaſon of the ſtrong ſpirits contained in the violent and feirce uapors of the *Aqua fortis* or ſtrong water, it is coloured red, or gliſtering, or yellowiſh, as experience ſheweth; the vapors proceeding from this kind of preparation are alſo dangerous & ſo are the medicines made therewith being often without due reſpect adminiſtred, yea ℥j. of *Præcipitate* one doſſ often Pill-wiſe by. *Empericks* And againe ſome others which would bee ſteemed more excellent for invention have this medicine a little removed. And then they ſtyle it *Turbith* minerall, attributing thereto the perfect cure of the Pox, perſwading themſelues none can doe like wonders to themſelues, but they are children in underſtanding, and know it not, onely they are opinionated and bold, and more often kill or ſpoile, then heale, as their conſciences know; for mercury is a fox, and will be too crafty for fooles, yea and will oft leave them to their diſgrace, when they relying upon ſo uncertaine a medicine, promiſe health, and in the ſtead of healing make their Patient worſe then before.

How Precipitate is made.

The ſubilty of Mercurie.

Of Sinabar.

Sinabar which is uſed in fumes for the Pox, is a deadly medicine made halfe of quick-ſiluer, and halfe of Brimſtone by Art of fire, I meane by diſtillation: I know the abuſe of theſe three recited medicines hath done unſpeakeable harme in the common-wealth of England, and daily doth more and more, working the utter infamy and deſtruction of many an innocent, man, woman, and child, which I would my wits or diligence knew to helpe; for every horſe-leech and bawd now upon each trifle will procure a Mercuriall fluxe, yea many a pitifull one, whereby divers innocent people are dangerouſly deluded, yea perpetually defamed and ruinated both of their good names, goods, healths and lives, and that without remedy. Me thinks I could ſpend much time if I had it, even in in ſetting downe the good and bad things of quick-ſilver, and yet I confeſſe I am too weak to deſcribe the tenth part of his wonders.

Where of Sinabrin is made, and the uſe and abuſe thereof.

In Laudem Mercurii:

OR IN PRAISE OF

Quick-ſilver or *Mercurie*.

VVHereto ſhall I thy worth compare,
whoſe actions ſo admired are?
No medicine knowne is like to thee,
in ſtrength, in vertue and degree.

Thou to each Artiſt wiſe art found,
a ſecret rare, ye ſafe and ſound,
And valiantly thou plai'ſt thy part,
to cheere up many a dolefull heart.

Yet makeſt thy patient ſeeme like death,
with ugly face, with ſtinking breath:
But thou to health him ſoone reſtores,
although he have a thouſand ſores.

The perfectſt cure proceeds from thee,
for Pox, for Gout, for Leproſie,
For ſcabs, for itch, of any ſort,
Theſe cures with thee are but a ſport.

Thou humors canſt force to ſu blime,
and them throw down when thou ſeeſt time.
Yea from each end diſeaſes flie,
when thou art preſt thy force to try.

Sweat to provoke, thou goeſt before,
and vrine thou canſt move good ſtore,
To vomit for diverſion beſt,
in purging downe thou guid'ſt the reſt.

Mans body dry thou canſt humeckt
performing it with due reſpect,
And being too moyſt thou mak'ſt it dry
who can that ſecret cauſe deſcry.

Quid non men terme thee, wot's thou why?
thou canſt be faithfull, yet wilt lye:
Thy temperament unequall ſtrange,
is ever ſubject unto change.

For thou art moiſt all men may ſee,
and thou art dry in th'higheſt degree:
Thou'rt hot and cold even when thou pleaſe,
and at thy will giv'ſt paine in eaſe.

Yet thou haſt faults, for I dare ſay,
thou heal'ſt and kil'ſt men every day,
For which I will not thee excuſe,
nor hold them wiſe that thee abuſe.

But for my ſelfe I doe proteſt,
as truſty friend within my breſt;
Thy ſecrets rare moſt ſafe to hold,
eſteeming them as fineſt gold.

And why? thou art the Surgeons friend,
his work thou canſt begin and end:
For tumors cure, yea hot or cold,
thou art the beſt, be it new or old.

For recent wounds who knoweth thee,
hath got a peereleſſe myſterie:
A Cauſtick thou art ſtrong and ſure,
what callous fleſh can thee indure?

In Maturation where 'tis dew,
thou art the beſt I ever knew:
For repercuſſion thou win'ſt praiſe,
by diſſolution thou giv'ſt eaſe.

What's virulent thou do'ſt defie,
and ſordid Ulcers doſt deſcry:
Yea fiſtulaes profound and fell,
thou ſearcheſt out and cureſt well.

No ulcer can thy force indure,
for in digeſtion thou art ſure:
Mundification comes from thee,
and incarnation thou haſt free.

To ſigillate thou do'ſt not faile
and leſt ſtrange ſymptoms ſhould aſſaile
The griefe late heal'd, thou canſt convay,
th'offending cauſe another way.

The Alchymiſt by *Vulcan* ſought,
from volatile thee fixt t'have wrought:
But thou defieſt his trumpery,
and changeſt him to beggery.

Had I but all thy healing Art,
it would ſo much advance my heart,
I ſhould not doubt equall to be
in wealth to Lords of high degree.

But from thy venemous vapours vile,
thy corroſive ſting that bones defile,
Thy noyſome ſavors full of paine,
God give mee grace free to remaine.

For when thou rageſt, Bird, nor Tree,
nor fiſh, nor fowle can withſtand thee:
What minerall ſo ſtout can ſay,
ſhe can withſtand thy force one day?

In *Saturns* breſt thou ſeem'ſt to dwell,
by *Iupiters* foyle thou doſt excell,
Thou Lion-like ſurpriſeſt *Mars*,
rich *Sol* thou mak'ſt as pale as aſh.

Thou *Venus* beauty canſt allay,
thou Hydrarge doſt Eliplſe *Luna*:
And though thou ſeem'ſt to wrong all ſixe,
not one without thee can be fixe.

Thou art their Mother, ſo ſaies *Fame*,
which gives them cauſe t'adore thy name:
Ready thou art as women be,
to helpe poore men in miſery.

Humble; to duſt, and aſhe at will
water and oyle from thee men ſtill:
Toſt up and down in fire thou art
yet ſubtill *Mercurie* plaies her part.

Meek as a Lambe, manly eake,
ſoft as the Wool, Tiger like:
Millions in one, one in a Million,
Male and Female in thy pavillion.

Thou Hermaphrodite as Fathers know,
ſeeming ſolid, truely not ſo:
Thou'lt be in all, none reſts in thee,
thy boldneſſe brings Calamitie.

Thou Idoll of the Chymists old,
who shall thy secrets all unfold?
Swift is thy wing, none can thee stay,
when thou seem'st dead, thou'rt flowne away.

If thou be in all things as men say,
dai ly produced and fled away,
Up to skye, down to the grave,
a wonder like thee, where shall men have?

But mend thy faults or thou shalt heare,
I'le blaze them out another yeere:
For many a guiltlesse man thou hast lam'd,
and many a modest wight defam'd.

And yet 'tis sinne to wrong a thiefe,
th'Impostors fault therein was chiefe:
For he that would be bold with thee,
'twere meet he knew Philosophy.

For thou to such art known and true,
but hatest fooles that men undoe,
Handling thee without due cause,
thou being not subject to their lawes.

Now to conclude, one boon grant me,
I will requite it gratefully:
If th'old wife kill thee with fasting spittle,
survive to make her patient cripple.

For well I know it is in thee,
to cause disgrace effectually:
His throat and nose see thou defile,
for thou thy Father canst beguile.

Force out his teeth, close up his jaw,
and leave scarce entrance for a straw:
Yea deafe, or dumbe see thou him make,
with ache and woe, with palsie shake.

Regard not thou though he should curse,
whose griefs th'hast chang'd from ill to worse.
It's known by thee ther's many sleepe,
for whom 'tis now too late to weepe.

I'le leave thee left thy anger rise,
thy favours let no man despise:
For as sword drawn, I know thou'rt prest,
men to offend, or yeeld them rest.

To any mov'd at theſe mean rimes,
I anſwer 'twas my idle times,
And love to youths in Surgerie,
urg'd me t'unmask old *Mercurie.*

If *Zoylus* deem I ſtretch too wide,
in praiſing thee what heer's deſcri'd,
I nothing doubt to prove each line,
to him that quarrels, in due time.

A word or two touching the foure Elements. The foure Elements are Fire, Aire, Water, and Earth. But the diviſion which the Chymiſts of theſe times plead for touching the Elements, *Ioſephus Quercitanus* expreſſeth in theſe words following: ſaith he, The whole world is divided into two Globes, to wit, into the ſuperiour Heaven, which is Ætheriall and aerie, and into the Inferiour Globe which containeth the water, and the earth. The ſuperiour Globe which is Ætheriall, hath in it fire, lightning, and brightneſſe, and this fiery Heaven is one formall and eſſentiall Element; the water and earth are the other two Elements: ſo he concludes, there is but three, and with him all the Chymiſts of latter times ſubſcribe, affirming that number moſt perfect which agreeth with the everlaſting Trinity.

The whole world contained in two globes.

What is comprehended in the ſuperiour globe. What the inferior containeth.

Paracelſus in a Treatiſe of his, called *Meteorum, cap.* 1. mentioning the difference betwixt foure and three Elements, hath theſe words. Touching fire; ſaith he, fire which is eſteemed one of the foure Elements, can ſtand with no reaſon ſo to be: but as touching the Earth, the Water, and the Aire, they are truly Elements; for they give element to man; but as touching fire, it giveth no element, it hath no part in the breeding of man-kinde, for it is well poſſible for a man to be bred, and to live without fire; but neither without aire, water, nor earth can man live, for in truth from the heavens, by help of the other two elements doth proceed Sommer and Winter, cold and heat, and all nouriſhment and increaſe whatſoever without the help of fire. Therefore are the heavens the fourth Element, yea and the firſt, for the ſacred word ſheweth us that in the beginning God made heaven and earth, ſhewing that heaven was the firſt made, and in the outward heavens are included the water and earth, which, ſaith *Paracelſus*, may be compared to wine contained in a veſſell, for wine is not gathered and prepared without a veſſell firſt had and readie, proving alſo many wayes that the fire is included within the Element of Aire, and is no Element of it ſelf. To prove the like opinion, touching the four elements, I could rehearſe the names of many famous Writers if I had leiſure, and that the occaſion were worth it, but the queſtion little concerneth the cure of diſeaſes by young Chirurgions, wherefore I will conclude this point my ſelfe, intending neither to quarrell for to prove three, nor four, let there be four or three, either of both ſhall content me.

To

Certain Fragments concerning Chirurgerie *and Alchymie.*

To the Chirurgicall Reader.

LOving Reader, I held it not altogether impertinent to acquaint thee as by the way with ſome cuſtomes which I have obſerved concerning Chirurgions in forraigne parts in my younger dayes travels, and chiefly in the Germane Empire, as touching their manner of allowing or approving of Chirurgions in thoſe parts, if by accident any young Artiſt ſhould affect to make triall by travell thither for his better experience, as I my ſelf have done, he may take notice hereby for his inſtruction.

Imprimis, their orders there generally are, that everie City, Town Corporate, or place priviledged, hath a conſtant rule, as by ancient tradition of the allowing of onely an uſuall accuſtomed number of Chirurgions thereunto appertaining, ſo that for one inſtance if the Citie of Hamburge hath twelve Chirurgions belonging thereto, although a thouſand pound ſhould be tendered in any way to produce a freedome for a thirteenth Chirurgion, it could not prevail, nor would be taken there; as likewiſe generally it is ſo all over Germany, and each Chirurgion is bred and muſt be a Barber, and ſo are all Barber-chirurgions; and if any one die, his office, Art, and place reſts in the power or diſpoſing of his wife, to the uſe of her and hers, ſo that whoſo marrieth her, or compoundeth with her, of what Nation or countrey ſoever he be that ſhall exerciſe the place, it is alike provided he be brought in by the widdow, as her husband or Agent for her, he is capable of a place void, having firſt made his maſter-piece, and performed ſome Manuall exerciſes uſuall with them in his Art of Chirurgerie, thereby to give a ſufficient teſtimony to the world of his anſwerable skill in his Art or Science, as namely, either by grinding, and ſetting a delicate lancet, and therewith opening ſeverall veins ſmoothly, for the more manifeſt effecting whereof to the brethren of his calling, one will lend him his veine, namely, one on the thumbe, one on the foot, and one on the arme, one other on the forehead, as alſo by the neat and exact making an artificiall Emplaſter, Unguent, or the like: which done, being by the reſt of the Maſters of the Citie approved of, and ſome other rites and ceremonies anſwering to his calling by him performed, according to the cuſtome of the place that he intendeth to reſide in, he is then being

eſteemed

esteemed a Regular person, and also having made the Brotherhood of the place and himself well drunk once, twice, or thrice, he is, I say, *(ipso facto)* admitted to be a Brother, and freely to use his function, and is styled by the name and honour of a Master of his profession. Thus much of their custome. But our customes are different from theirs, and are farre better, namely, our Companie of Chirurgions of the Citie of London, in the Hall of the Society, have a more commendable custome, for we not onely examine Chirurgions, and try their skils in that way, as being of ancient time used and practised amongst us, but also we have profitable, learned and experienced Lectures read amongst us, having two laudable ends and effects in them, the one in testifying their own, I meane the Readers sufficiencies; the other in seasoning and instructing of their auditours, namely, the younger sort of practitioners in the Art they professe: and yet they have a third good end, namely, they serve for the publick good of the whole Common-wealth, by training up, and breeding of able Chirurgions upon all occasions.

Non Medicos tantum facit experientia doctos:
Qui facit artifices, usus ab arte venit.

And of these our laudable customes and exercises in our Hall, my self have been both an eye and eare witnesse to divers worthy Artists at their Lectures there, that have shewed themselves Masters indeed in their Arts to their due commendations (*Virtus laudatur ab illis*) as also at the Lectures of divers learned Doctors in that place: but as for my self, although I have there as I may not deny exercises by publick reading of Lectures in my turn and place, yet my ambition at the highest hath been onely to deliver my self to the world to be Chirurgions Mate, as aspiring to soar no higher *(Ne sutor ultra crepidam.)* In which being, first I have explained to the world a Module of the Militarie Chirurgions chest, with the instruments and medicines fitting thereunto, as elsewhere is recited, thereby to intimate to the younger Chirurgions in some sort how they may make use of them in all publick services for the better performance of their duties in their callings, upon all militarie occasions, for the more speedie curing of such infirmities as Sea-men and souldiers are most incident unto, and having finished my intent therein, at the intreaty of some of my good friends, I thought it fit, though in briefe, to write somewhat by way of addition to my former edition of *Sal*, *Sulphurs* and *Mercury*, and, namely, how they are made the more known and usefull unto us by the Chymick Art, or the Art of Alchymie which the Chirurgions ought to be versed in, and which in briefe is thus defined.

De definitione Alchymiæ.

Alchymia est ars corpora naturalia mista solvendi, & soluta coagulandi ad medicamenta gratiora, salubriora & tutiora concinnanda.

The

The definition if Alchymie.

Alchymie is an Art diſſolving naturall congealed ſubſtances, and again congealing ſubſtances diſſolved, for the more gratefull, wholeſome, and ſafe preparing of medicines for mans bodie.

Secunda definitio.

Alchymia eſt ars perficiendi magiſterii & eſſentias puras & miſtas, ſeparato corpore extrahendi. *Oſwaldus Crollius.*

A ſecond definition thereof.

Alchymie is an Art which produceth magiſteriall and eſſentiall medicines from mixed bodies.

The parts of Alchymie.

The parts thereof by ancient Writers are accounted two, namely, *Libanius.*

Encheriæ,
Alchymiæ.

Encheriæ is ſaid to be that part which performeth the operative parts of the Art.

Alchymiæ is tearmed the mixing and finiſhing part of the ſaid Science.

Of the antiquitie, the firſt inventers, and worthineſſe of the excellent Art of Alchymie.

IT is recorded by ancient Writers that the firſt inventer thereof was *Tubal Cain*, ſpoken of in the holy Scriptures, who, as ſome Writers ſay, was called *Vulcan, Is enim primus in metallurgia laboraſſe ſcribitur.* That he did firſt of all men work in Metals, which is within the ſcope of Alchymie, and not the leaſt part thereof.

After him as Records witneſſe, *Hermes* alſo called *Mercurius Triſmegiſtus*, an Ægyptian king, was a worthie Inventer or founder of Alchymie, being famous in his dayes for the tranſmutation of metals, whereby certain inſtrumentall parts belonging to the hidden myſtery of Alchymie bear their names, that is to ſay, *Vas Hermetis, Pellicanus Hermetis, Sigillum Hermetis, &c.* This *Hermes* as is ſaid by *Huſius* an ancient writer lived king in Ægypt about the yeer of the world 2646. ſo alſo in the learned *Meſues* works is mentioned *Pill. Hermat. Hiera Hermetis, &c.*

The Art of it ſelf is alſo called *Ars Hermetis*, and for the tranſmutation of metals that is alſo underſtood with *Gebrcus Mauritanus* to have proceeded from *Hermes*, the which in this work the Author intends not at all to handle, but onely of the inventers of this Art: ſome writers ſay, the Arabians, and others the Perſians, are thought to be

the

the firſt that have prepared metals fit for medicines, and alſo have practiſed the diſtilling of Liquors: whence *Avicen* of *Sanſano* is ſaid to have ſtudied Alchymie, and he maketh mention of Sublimation and precipitation. Alſo many other Princes and Philoſophers moved thereunto no doubt *de præſcientia Dei*, eſteemed themſelves exceedingly graced by the works they performed in that Art for the curing of many infirmities.

Amongſt which one of the moſt famous and ſo moſt truly worthie was that excellent Philoſopher for art and experience *Philippus Theofraſtus Bombaſt*, otherwiſe named *Paracelſus*, who deſcended from a princely familie in high Germany, in the countrey or Province of Helvetia, commonly called Switherland; upon whoſe monument to his perpetuall fame is ingraven the verſes following.

Divinus tali eſt Paracelſus in arte monarcha,
Secula cui ſimilem nulla tulere virum.

And whoſe engraven Motto was:

Alterius non ſit qui ſuus eſſe poteſt.

And *Bazillius Valentinus* ſeconded him, who having his lights from the former exceedingly beautified the Chymick Art, by compoſing medicines of unſpeakable worth to future ages, farre exceeding their worthy predeceſſors as is manifeſt; for what compariſon can there be betwixt medicines made of vegetables, decocted, contunded or mixed how artificial ſoever, if compared with Elixers, Quinteſſences, Tinctors, and like extracts of price, which are not onely dureable for many yeers without change, eaſie and pleaſant to be received into mans bodie in his greateſt weakneſſe, but alſo they excell all Galeniſticall compoſitions for the eradicating inveterate maladies, as experience more then ſufficiently manifeſteth. For example, ſuppoſe a ſweat provoking medicine were to be uſed of foure, ſix, or eight grains, being a Diaphoretick of gold, or ſuppoſe but of *Sulphur* in or with a fitting vehicle given, as, namely, in a little Mithridate, Conſerve of Roſes, that by cauſing a gentle ſweat would extinguiſh a peſtilentiall fever: were it not farre eaſier for the ſick to receive into his body then a decoction made of ſudorifick hearbes, as *Carduus Angelica*, or Centaury with Mithridate and ſyrups juſtly compoſed, as in that form is uſuall, or that an Extract being a *Catholicon purgans* ten or fifteen grains whereof being extracted from a vegetable, which without any offenſive nauſeous taſte, or bitterneſſe at all, doth work effectually to the deſire of the Artiſt, ſuppoſe you it ſhall not be as much to the reputation of the Artiſt, and to the content and profit of the patient, as if he had taken a doſe of Diaphenicon, or *confectio Hamech*, with the uſuall additaments of Dicoctons or ſyrups thereunto as vehicles added.

Or that a doſe of a *Panchiagagon* of 20. grains be not farre more gratefull to a ſick ſtomack, then an ounce of *Diacatholicon de ſucc. Roſarum*,

ſarum, Confectio Hamech, or the like, it being daily manifeſt that the very ſight of large doſes of medicines, although good, are nauſeous, and abhorred of the weak ſtomack, yea that many Patients will endure the diſeaſe rather then the medicine; whereas on the contrarie true prepared Chymick medicines are not onely gratefull to be received into the body, but alſo, as is ſaid, farre excell the others in vertue and potent operation: and whereas the Chirurgion cannot at all times adviſe with the learned Phyſitian, as fitting and moſt requiſite he ſhould in caſes of phyſick, where ſuch may be had for the health of his patient, as namely, the Chirurgion being at Sea, and upon long voiages, or at land in the Camp or countrey, where learned advice cannot readily be had, they have eſpeciall reaſon if they be men provident to be furniſhed with ſuch medicines as are ſmall of doſe, and light of portage, being alſo ſuch as do not putrifie, nor in one yeer change their accuſtomed natures and vertues, no nor in any voiage how long ſoever: all which Chymick medicaments do well perform, yea though they be carried in ſhips and paſſe the line more then once.

Whereas few medicines made of vegetables that are in common practiſe, though found from the Apothecaries ſhops, will be found ſerviceable upon juſt occaſion if they go but a ſix moneths voyage, as daily experience ſheweth, and as the Reader may eaſily conceive: wherefore then how needfull, precious, and how truly valuable ſuch medicines be, let any indifferent perſon judge, that being truly made, duely adminiſtred, and their doſes and uſes obſerved and known.

A further explanation of Alchymie containing a diviſion of Natures whole works into three parts, viz. Animall, Vegetable, and Minerall.

OSwaldus Crollius a learned writer, as alſo *Beguinus*, and divers others with him of that ſort do affirme that *tota natura inferior ſub Sole in tres partes dividitur, viz. Animalia, Vegetabilia, & Mineralia.* The whole inferior work of Nature under the Sunne is divided into theſe three principles, *viz.* into Animall, Vegetable, and Minerall creatures. The animall creatures are tearmed or ſaid to be all whatſoever containeth life: the vegetable creatures are tearmed or meant to be all that which groweth. And under the minerall part is included all metals, ſtones, minerals, and whatſoever it be that neither vegetateth upon the upper face of the earth, nor liveth: and from each of theſe three, by learned Authors is taught, and by experience is found out, that there is again a threefold ſubſtance to be extracted, and perfectly to be made apparant in every of theſe creatures; and theſe threefold ſubſtances are called *Sal, Sulphur*, and *Mercury*: and beginning with the laſt firſt, their further definitions follow.

A briefe definition of Mercury.

Mercury is a liquid ſubſtance ſower, or ſharp, volatile, penetrable, mayrie, and moſt pure, from which all nouriſhment proceedeth, as alſo all ſenſe, motion, ſtrength, and colour, and the keeping back old age from man, chiefly next the divine operations of God reſteth therein, and it agreeth well with the elements of aire and water; for to the former it is ſubject upon every offered occaſion to vaniſh into the ſoft aire: to the latter, in that it is very difficultly contained in any ſtraight or certain bound, but eaſily in a vaſte or wide capacitie. Likewiſe there are that define *Mercury* to be a liquid ſubſtance, that is *Eger*, *Porous*, alwayes moveable, often mutable, and eaſily penetrable, and a body that is moſt pure and heavenly, moſt ſubtile, and of a lively and ſpirituall ſubſtance, being the food of life, and yet a ſhape, that is alſo moſt mutable, concerning his ſeverall ſhapes of all other creatures; whereupon *Phalopius* tearmeth *Mercury*, *Miraculum naturæ mundo*, The miracle of Nature in the world. In which definition, if the Reader may ſuppoſe I ſpeak this of the vulgar *Mercurie*, *viz.* *Quickſilver*, and the wonderfull Imps of his production, he takes me off too ſhort by figure. Wherefore I here conclude the definition of *Mercury*, and paſſe to *Sulphur*.

A briefe definition of Sulphur.

Sulphur by the ancient Writers is ſaid to be the balſam of Nature, it is ſweet, oyly, and clammy, preſerving the naturall heat of the bodie, being the inſtrumental cauſe of all ſtrength of all increaſing or generation of all tranſmutation, and the fountain and well-ſpring of all ſents both ſweet and ſtinking: and it is compared unto fire, by reaſon of the flame which it eaſily gathers, as other gummy and oyly bodies do, and this one thing is proper to it, that it hath force of making fit and conglutinating the greateſt contraries; and *Beguinus* a famous late writer, giveth an example thereof: For, ſaith he, thou canſt never make a fit clay with water and ſand, unleſſe thou mingle Lyme or ſome other conglutinating body with it, ſo neither fleeting *Mercury*, nor fixed *Sal*, can by any meanes be forced into one ſubſtance, and framed into one body, but by a band and fetter of *Sulphur*, which participates through the clammie and viſcous ſubſtance thereof with both the natures of *Sal*, and *Mercury*, and ſo joyneth them into one, to wit, it maketh a true accord betwixt the drineſſe of *Sal* and the moiſtneſſe of *Mercury*, by the thickneſſe and viſcouſneſſe of *Sulphur*, and ſo conjoyneth them both joyntly into one body; neither may this *Sulphur* be taken to be meerly brimſtone, but rather which in truth it is, the fatty and combuſtible parts of the body, or ſubſtance from which it is drawn, be it of what qualitie ſoever.

A briefe definition of Salt.

Salt hath a body that is drie, ſavourie, and bitter, defending both the mixed and unmixed parts from putrefaction; it exceedeth in the faculties of diſſolving, and diſcuſſing, coagulating, evacuating, and ſcowring; and yet from *Salt* is all the vertue of the two laſt recited principles borrowed, with their taſtes, and infinite other excellent properties it hath, ſo as the anologie of it anſwereth the earth, not becauſe it is meerly cold and dry, for in truth Minerals generally have no certain temperaments, nor can be confined truly under the attributes, hot, cold, drie, or moiſt, for that a Minerall is an elementary body that is of it ſelf firme and fixed; and therefore for his operative excellency is unſearchable, ſpecificall, and incomprehenſible, not to be limited or ſubjugated to any one temperament, neither to be comprehended within humane capacitie. This may ſeeme unto the Reader but a ſtrange paradox, except by a plainer definition it be explained, as namely, whether that the Salt here mentioned is really Salt, ſuch as is commonly uſed for ſalting meat, and alſo to declare that Sulphur is really Brimſtone, and that Mercury hath the name of Quickſilver generally: Unto all which I anſwer, They are; And yet as is ſaid, they are not meerly ſo, for that as concerning Salt, each creature hath his peculiar ſalt, and each peculiar his appropriate and different facultie and vertue. And here I deſire to inform the younger men that are Chirurgions, by way of digreſſion, for their better knowledge in avoiding of dangers, that they be exceeding cautulous and warie in the inward uſe of all Minerall medicines, whoſe preparations they are not truly verſed in, but chiefly of that great and wonderfull Idoll *Mercury*, not in regard of the great good it daily doth by the judicious uſer thereof, for it is a gracious good thing; but rather I ſpeak in reſpect of the great hurt and miſchiefe it daily produceth by the abuſive preparation and adminiſtration thereof: but for as much as Mineral medicines have their due denominations according to the ſeven Planets, it will not be impertinent for the younger ſort of Chirurgions that in briefe I write ſomewhat of the ſeven prime Metals aſcribed to the ſeven Planets.

A briefe Chymicall narration concerning the ſeven principle Metals, denominated according to the ſeven Planets.

MAny of the prime Authors of the Chymick Art have, and that not unfitly, aſcribed the ſeven principle Metals unto the ſeven Planets, as namely, they have aſcribed Gold unto *Sol*, Silver to *Luna*, Copper to *Venus*, Iron to *Mars*, Tynne to *Iupiter*, *Mercury* to Quickſilver, and *Saturne* to lead, and have nominated them accordingly; and ſo in the generall explanations of all the learned Chymiſts they ſtand to this day known by the aforeſaid attributes. The ancient Philoſophers Chymiſts alſo have aſcribed to each of theſe ſeven Metals, or rather to the medicines made of them, a certain ſpecificall or more

more peculiar operative power, or facultie in the curing of the diſeaſes of ſome one part of mans body more then of another, and namely, unto *Sol* or Gold and his medicine, is aſcribed a ſpecificall facultie or hidden vertue, more exquiſite in the cures of the diſeaſes of the heart, unto *Luna* or Silver, the cures of the infirmities of the head, and chiefely of the braine are aſcribed; and to *Iupiter* or Tin, is referred the helpe of the diſeaſes of the Lungs; unto *Mercury*, or Quick-ſilver, is aſcribed an eſpeciall priviledge in the cures of the diſeaſes of the Liver; unto *Saturne* or Lead, is appointed the healing of the infirmities of the Spleen; *Mars* or Iron, is ſaid to cure the griefs of the Kidneys beſt, and unto *Venus* or Copper, is left to heale the defects of the Genitalls, and this is not onely ſo eſteemed, but alſo practiſed accordingly, and that by Authoritie of many famous Writers ratified, as of *Ioſephus Quercitanus, Tho: Muffetus, Iacobus Swinglerus*, and very many other worthy Authors in that Art, the number of which it would be tedious to repeat, in regard that all and each of theſe Minerals have their ſeverall medicines proceeding, or made out of them, which although they all doe not alwaies beare the proper name of the Originall Metall from whence they proceed, yet in ſome ſort they doe, and namely, from *Sol* or Gold proceedeth, *Elixer vitæ, Aurum Potabile, Aurum Tinctura.*

Aurum Solutivum,
Aurum vitæ Meum.
Aurum vitæ Theophraſtri and many more.

And from *Saturne* or Lead proceedeth *Oleum Saturni, lac virginis, Saccarum Saturni.*

Vnguentum Minii.
Emplaſtum de Minio.
Lithergerie *Auri Argenti & Plumbi Saccarum Saturni.*
Plumbum album.
Ceruſſe, and many other good *Sanative* medicines.

And the like of the reſt of the ſeven Minerals in uſe, too long to repeate: and here as by the way you may take notice concerning *Saturne* or Lead, that all ſorts of Lithergie, they are no other thing then Lead meerely, and to be reduced into Lead againe; even ſo *Mercury* or *Quick-ſilver*, which hath theſe following medicines, and many other profitable preparations deſcending from it. *viz.*

Eſſentia de Mercurio.
Turbith Minerale.
Mercurius vitæ, which is vomative.
Balſamum Mercurii, a ſanative.
Mercurius Diaphoretic: provoking Sweat.
Mercurius Diaureticus, provoking Urine.
Mercurius Laxativus, purging *per ſeceſſum.*
Beazor Minerale, which is different two wayes. viz. { Laxance, Vomative.

Mercurius

Mercurius Dulcis, Specificall in operation.
Mercurius cum Iove,
Lac Mercurii,
Sublimatum, in it ſelfe Corroſive, deſiccative,
Præcipitatum, ſuſpected to have been the death of many a man.
Aqua Mercurii ex Mercur: Sublimat: & ex præcipitat.
Ablutio Mercurii vitæ.
Oleum Mercurial: Sinabrium: and divers other preparations.

And yet to all theſe apparantly in uſe may be added divers waters, oyles, liquors, &c. proceeding from this wonder of nature, *Mercury*; and yet nevertheleſſe there is ſcarce one of theſe medicines, but may be reduced or turned againe in his *prima Subſtantia*, that is to ſay, thoſe that are really of *Argentum vivum* into plaine Quick-ſilver, in deſpite of the old wife that killed it with faſting ſpittle; And *Sinabrium* is a Dog of the ſame Mercuriall kinde, being made of Brimſtone and Quick-ſilver ſublimed together, and therefore a Coarſe and farre more dangerous medicine then the medicines of meere Quick-ſilver in my apprehenſion, for by the onely once ſubliming thereof with ☿ Sulphur it begetteth a Corroſive or venemous qualitie, as all experienced Artiſts well know *Mercurius ſublimate* doth, & that a fierce one: therefore though ſome have counſelled to themſelves, that ſuppoſed ſafe but moſt pernitious medicine, that they have found as a rare deviſed ſecret by the mutation of *Mercury* into *Sinabrium*, let them know, be they old or young Artiſts, that it is a divelliſh, deadly, coarſe medicine, no way ſafe nor fitting to enter in, or to be put into mans body. I feare I may trouble your patience in dwelling too long upon this falſe fellow *Mercury*, whom fully to diſcover with all his miraculous effects, eſpecially if I ſhould unfold all his perfidious eluſions and treacheries againſt the poore patients that are under his dominion, that onely ſubject would fill a large volume, and yet I muſt ever confeſſe, as I have ſaid elſewhere, I have found him my good friend many times at a pinch; yet let no Artiſt that truly feareth God be too bold with him: for that *Mercury* (under the Roſe be it ſpoken) is a cruell man-ſlayer, and hath wounded, defamed, yea, and murthered thouſands in corners, yea and doth play the devill daily both in Citie and countrey; and that under a vizard of vertue, yea and ſometimes under the Roſe doth it *Cum privilegio Magiſtralis*, upon whoſe guiltleſſe corps ſo transferred into *Abrahams* boſome no earthly jury paſſeth. For it is then too late to call to minde whether Art or Nature were too blame, or by which the errour proceeded: for, under favour be it ſpoken, ſometimes it is caſt upon the knave *Mercury*, which then he ever retorts it upon the Impoſor; and he the Impoſtor, like a Jugler, blames poore *Venus* with the cauſe, but how true God knoweth; yet ſhe, pretty poore ſhamefaſt ſoule, being amazed and abaſhed, knowing her ſelf to be a ſinner, yet conceiving it unmercifull

mercifull that her ſweet lover and friend ſhould die by the cruell hand of a murtherer *Mercury*, for a little ſweet pleaſure; ſhe hath no wit to lay it where truly it ſhould be, but plead *Ignoramus*, conceiving yet dares not ſay that ſome of the greater Planets, as *Sol*, or *Luna*, by their gliddering ſhews wrought with ſome body that perhaps ignorantly put that Idoll *Mercury* by *Vulcans* means, to play the Dragon. And ſo no more of that, *Fœlix quem faciunt aliena pericula cautum, &c.* leaving ſuggeſtions, and conceits, and may be's.

We will again to our intended ſcope, namely, to ſpeak of better things, concerning the ſecrets of the Art, and leaving the errours of Impoſtors with all their baſe and dangerous eluſions and abuſes, and proceed to the information of the well diſpoſed younger Artiſts. And in this place conſidering that *Mercury* is appointed and appropriated, as formerly is expreſſed, to the cure of the diſeaſes of the Liver. I cannot but put the Reader in minde to admire the exceeding deep wiſedome of that moſt prudent King *Solomon*, as appeareth in the Proverbs, in his deſcription of the whoriſh woman, who after his ſetting forth of her dangerous wiles and cunning enticements for the intrapping of the fooliſh young man, he thus concludes: The young man goeth after her as an Ox to the ſlaughter, or as a foole to the ſtocks, till a dart ſtrike through his liver; or as a bird haſteth to the ſnare, not knowing it is for his life: and concludes, her houſe is the way to hell, going down to the chambers of death. In which attributes of *Mercury*, as aforeſaid, to the healing the Liver, it ſeemes to me *Mercury* is as it were by God and Natures appointment prefigured and enjoyned for the healing of the fooliſh young man that had the dart ſtrucken through his Liver; for I am confident that dart was by *Solomon* meant the cõtagious diſeaſe of the French pox, which by *coitu vel contactu* the poor fool gained by his folly from the whoriſh woman; for that the learned and expert Artiſt, not onely by the pulſe and the urine, but by the complaint of the Patient, yea and by his very countenance may gather his diſeaſe, and that *Solomons* Dart hath ſtricken his Liver even with the pox. For in the perfect cure wherof, the Liver is firſt to be rectified, for the which work I had almoſt ſaid *Mercury* is beyond compariſon, if he be well guided by the experienced Artiſt: But if otherwiſe, *Mercury* is a Dragon who for healing and killing hath no fellow, as I formerly have denoted more then once. And whereas it is vulgarly alledged that Chymick medicines prepared of Minerals, and namely of *Mercury*, are dangerous and deadly, it is not denyed but that they are ſo, if that by art *(purum ab impuro)* the pure from the impure be not ſeparated; but this advantage the true Chymiſt faith he hath, that in the preparing of his medicines he can take the pure from the impure. Whereas even by the books of *Hippocrates*, *Galen*, *Diaſcorides*, and very many of the moſt reverend ancient Writers it is manifeſt, witneſſe *Antidotarium Mirſpitium*, and many other works and diſpenſatories which teſtifie that they themſelves have not at all, ſo much as undertaken to ſeparate *purum ab impuro*, but have made and adminiſtred many Minerall medicines being of crude and unpurified ſubſtances,

Prov. 7. 6. to the end.

ſubſtances amongſt the reſt. *Rondeletius* uſed to give crude *Mercury* in pils to robuſt bodies to kill wormes, and for the pox: and *Crato* a famous Phyſician to three Emperours, is ſaid to have uſed to adminiſter *Zinabrium* for the giddineſſe of the head. *Iulius Alexandrinus*, *Matthiolus* and *Geſnerus*, theſe all uſed to give crude Copperas in Fluxes, as witneſſe *Beguinus*, and *Falopius* uſed crude filings of Iron in menſtruous obſtructions, alſo in the Jaundiſe; and crude *Sulphur* in the affects of the Lungs. The premiſes therefore conſidered, judge then if the true prepared Chymick medicines given with judgement be not farre more noble and worthy in themſelves then they aforeſaid, aud the rather to be embraced, in that it is daily manifeſt, that the Galeniſticall preparations of vegetable medicaments fail much in their aſcribed or preſcribed vertues, eſpecially with our Sea Chirurgions, as is ſaid in forraigne parts, to the danger, yea, and to the loſſe of many their patients; yet not in the leaſt excuſing of the abuſes by falſe prepared Chymick medicines, and the harm they produce by their unskilfull preparations, and the abſurd adminiſtration of them, alluding whereunto divers worthy and famous Writers have mentioned caveats, and namely, *Laurentius Hofmanes*, a learned Germane Chymiſt in his book entituled *De vero uſu & ſero abuſu medicamentorum Chymicorum*: he uſeth theſe words following as an inſtance of the danger of a falſe Chymick medicine.

A falſe Chymick medicine prepared unduely, and ſo given (ſaith he) may not unfitly be compared to certain dangerous ſubtill Rats in *India*, which by nature doe watch the *Crocodile* of thoſe parts, which uſually ſleepe with his mouth wide open, and theſe Rats being ſmooth and ſoft in their entrance, doe not awake the poore *Crocodile* at all, but goe in at his mouth very ſmoothly, and eaſily without troubling him by taſte, touch, or ſmell; yet nevetheleſſe, after they are got quietly into his bowels, forthwith they with their divelliſh ſharpe ſmall teeth, begin to bite the poore *Crocodile*, and in a ſmall time they doe ſo corrode his entrals, that they make their owne way out at their pleaſure, by the killing the poore creature, and that if not immediately, yet by a languiſhing deadly diſeaſe, they performe their divelliſh end by perforating hisentrals, and ſo that improvident creature dyeth. *An Hiſtory.*

The occaſion of the aforeſaid Author, his alledging this compariſon, proceeded by reaſon ſuch an *Indian* Rat, or rather in truth by a falſe Minerall medicine put into the body of a Brother of his, as he affirmed, which very ſmoothly went in at his mouth, but within a ſhort time had cruelly effected the killing of the partie. Alſo to the ſame purpoſe, one *Foreſtus* of *Paris* a learned Writer affirmeth upon his knowledge, that thouſands of people in that citie, have dyed by taking of dangerous, and not well prepared Minerall and for the moſt part Mercuriall medicines, and one *Crato* an ancient Writer alſo affirmeth, that he kept a note of above eightie perſons, which to his knowledge had been killed abſolutely in one yeare in the Citie where he dwelt, by one Impoſtor, and that by the onely giving of Turbith Minerall,

and

and yet of theſe but very few, but become or ſeemed for a moneth or two, to have been well cured of their diſeaſes, and yet after a ſmall time they languiſhed away and dyed, ſome of conſumptions, others of more fearefull accidents by that moſt peſtiferous Indian Rat, be it for *Sal*, *Sulphur*, or *Mercury*, unduly prepared.

And *Cardanus*, an ancient worthy Writer, reporteth of a woman ſometime his Patient, who dying of a vehement paine in her head, after the receiving of divers Mercuriall medicines, which being dead; himſelfe tooke out ℥ij. of crude Mercury, from within her ſcull.

And he alſo relateth of another, who after a Mercuriall unction taken, vomited up *Argentum vivum* in drops at the mouth and dyed thereof, and my ſelfe in Saint *Bartholomews* Hoſpitall having been there a Chirurgion 23 years, have obſerved very many, to have moſt pitifully been abuſed that way by Emperickes fooliſh, women, and by baſe Impoſtors who after in ſhort time have dyed by bad Chymicke medicines.

It is reported of *Cardanus*, that in his time he would ſay, he was confident, that if he might have for every man, woman, and childe, that precipitate had killed, the value of one ſhilling, he ſhould be richer then any living man, in the Citie where he lived.

And *Andreas Libavius*, doth report of a certaine Medicaſter of his time, which gave his Patient two pils of Mercury, of the firſt he fell into an Appoplexy, and of the ſecond into a Lethargie, and ſo dyed immediately.

He alſo ſpeaketh of another, who had the winde Collicke, unto whom a Barber gave three Mercuriall pils, who purged thereby continually untill he dyed.

Alſo *Adurpius*, a Phyſitian of *Strauſburge* reports of another Phyſitian dwelling in *Strauburge* in upper *Germany* not farre diſtant from him, who in one yeare was knowne to have killed 80 Patients, which had been under his Cure, by the uſe of Mercuriall medicines.

Alſo of medicines of *Antimony* evill prepared, and worſe taken; infinite many have ended their dayes untimely: and here I cannot omit to deplore the unchriſtian audacious boldneſſe of the wicked Impoſters in theſe dayes, who without any feare of God, or compaſſion to mankinde, doe raſhly ruſh upon the cure of any infirmitie (how incurable ſoever) promiſing cure, taking money in hand, and thereby engaging themſelves to the Patients to cure them; but yet when with the beſt ordinary meanes they know, they have not effected their deſires, I will judge charitably ſo farre, but then they boldly proceed further, and put the *Indian* Rat to worke, which as aforeſaid, goeth ſmoothly downe into the ſtomack, but when it is in, then it begins to ſhew what houſe it came of.

Now a word or two touching the true preparing of exellent medicines by this arte wherein I admoniſh all men who have not convenience, I meane a convenient houſe and roome convenient for the worke with learning, Iudgement, Leiſure, wealth and other additaments fitting; as alſo an able body and a ſpirit to goe through there-

with

circular ſolution, and coagulation in a Pelican, a moderate heat forceing it.

Clarification is the expurgation of ſordid groſſe matter from liquid medicaments.

Coadunation (ſometimes termed by the name of a more excellent ſpecies, *Coagulation*) is a perfect and skilfull working, whereby diſagreeing things are united.

Coagmentation like to glutination, is by liquate things, on which diſſolving powders are caſt, and afterwards are made concrete by laying them in a cold place, or by evaporating their humiditie.

Coagulation is the coaction of things agreeing in nature from a thin and a fluid conſiſtence into a ſolid maſſe, by the privation of moiſture.

Coction is the alteration or commutation of a thing to be boyled.

Cohobation is frequent abſtraction of liquor oftentimes affuſed upon a dead head or drie feces by diſtillation.

Colation is the tranſmiſſion of that which is humid thorow a ſtrainer, that the liquor may be had ſeparated from the dryer ſubſtance.

Colliquation, or *Colliquefaction*, is the conjunction of many fuſils or liquables to make one compound by eliquation on the fire.

Coloration is, whereby the perfect colour of gold, ſilver, Philoſophers Lead, &c. obſcured by any ſulphurious vapour, is renovated and illuſtrated by maceration, frequent ablution, in ſharpe liquor as Salt, Argal, ſpirit of wine, wine vineger, or by an acute paſte laid on the ſaid metals.

Combuſtion is ignition, converting bodies by burning them into Calx.

Comminution is the reducing of any matter into ſuch fine powder by dilution, filteration, exiccation, contuſion, calcination, cribration, or any other meanes, that no roughneſſe or corpulency be felt, as Alcool.

Complexion is the nature of a part hot, cold, moyſt, or drie.

Compoſition is the coadunation of divers things.

Concretion is divaporation of humiditie in fluid things, by gentle decoction on fire.

Confriction is a certaine light *Attrition*, by which pulverable things, with the rubbing of the fingers, or a more ſolid body, are quickly levigated, as *Ceruſſa Amylum, &c.*

Confuſion is properly a mixture of ſuch liquid things as are fluid, and of one and the ſame nature (as of divers waters by themſelves, and ſo of oyles:) liquid things (as waxe, roſin, pitch, &c.) may likewiſe be confuſed, but by Eliquation.

Congelation is often performed by a precedent decoction of things to a certaine height or juſt conſiſtence, which after ſet into a Cellar or cold place, doe congeale into a tranſparent ſubſtance, not unlike ice, as is ſeene in the making of Copperas, Salt-peeter, or the like.

Conglutination is the ferrumination or compaction of metals, jewels, glaſſes, &c. by gummes, glue, whites of egges, and the like, the nature of the conglutinated remaining.

Contuſion is the beating of groſſe bodies into ſmaller or very ſubtill parts.

Corroſion is calcination, reducing things coagulated, by the corroding ſpirits of ſalt, ſulphur, wine-vineger diſtilled, *Aqua fortis*, &c. into Calx.

Cribration is the preparation of medicaments by a ſive or ſearce.

Deliquation is a preparation of things by melting on the fire.

Deliquium is the liquation of a concrete (as ſalt, powder calcined, &c. ſet in an humid and frigid place (externall humiditie, reſolving the ſiccitie) that it flow, having a watery forme, as is apparant in the preparation of ſalt of Tartar.

Deſcenſion is when the eſſentiall juyce diſſolved from the matter to be diſtilled, is ſubducted and doth deſcend.

Deſpumation is when ſpume or froth floating on the top, is taken away with a ſpoone, feather, or by colation.

Diſtillation is, whereby an eſſence is extracted in the forme of liquor, and being coagulated, is carried by the *ſtillicidium* tranſlated out of the veſſell of the matter, into the *excipulium* ſublocated.

Difflation is, when through heat, ſpirits ariſing, are with a kinde of *folles* blowne into the adverſe camera, and there are found coagulated.

Digeſtion is ſimple maturation, whereby things unconcocted in artificiall digeſtory heat (as food by a naturall heat in the ſtomacke) is digeſted.

Diſſolution is a preparation of medicameuts ſimple, and compounded by ſome convenient humiditie to a certaine conſiſtence.

Diſtraction is a certaine divulſion or diſunition of divers things before united and agreeing together (no reſpect of one exiſting or comprehended in an other had) every one remaining in its owne nature.

Divaporation is exhalation by fire of vapour, remaining in liquid ſubſtances, till all aquoſitie be conſumed, or in more drie but fumed by torrefaction.

Dulcification is the correction of minerall medicaments by abluti-ons, and the like.

Duration is either when things mollified at the fire are ſet in a cold place to harden: or by boiling to an high conſiſtence or admixtion of dry powder with them, doe waxe hard.

Elaboration is a manuall operation, whereby we extract from a ſubſtance the moſt excellent matter, the ignoble parts remooved.

Election is of ſimples according to time and ſeaſon wherein they are gathered, and according to the region wherein they grow, that ſo the beſt may be had, & their vigor appear in uſe according to expectation

Elevation is ſubtiliation, when ſpirituall parts from the corporall, ſubtill from the groſſe, the not fixt from the fixed, like ſmoake

by

by the force of fire are elevated, and adhering to the cold concaves of the Alembecke, doe thicken and convert into water.

Elixation is coction *in humido* by a moderate heat.

Elution is the preparation of common Bole, *Talcum*, *Crocus Martis*, *Terra Lemnia*, &c. by pulverization, calcination, lotion, &c.

Evaporation, See *Divaporation*.

Exaltation is an operation, whereby a medicament changed in his affections by gentle dissolution, is produced to an higher dignitie of substance and vertue, and a greater degree of puritie.

Exhalation is when the spirit of any matter solid, or in powder (being put into a platter, or any other convenient vessell set on coales) is elevated through heat, and vanisheth into the aire.

Expression is extraction by a presse, wherein hearbes, amigdales, &c. compressed, powre foorth their substances (as juyces and oyle) in a liquid forme.

Extinction is the suffocation of a matter fiery and hot into some humiditie.

Extraction is a segregation of an essence from a corporeous concretion, by digestion in *Balneo*, his feces left *in fundo*, as *Rhabarbarum* in spirit of Wine infused, manifesteth.

Fermentation is the exaltation of a massie substance, by the admission of *Fermentum*, which doth penetrate it wholly (his vertue distributed by a spirit) and inverteth it into his owne nature.

Ferrumination is the joyning together of a fracture in one and the same Metall, or of divers Metals, by a Minerall flux.

Filteration called percolation, by Filtrum a Chymicall colum is subduction of thin aquositie in humid things, the thicke and oyly substances resisting.

Fission, see *Section*.

Fixation is the assuefaction of volatill and spirituall bodies to fire by calcination, gentle and continuall decoction, frequent sublimation, solution, and coagulation often iterated, or by addition of a matter fixed, that so they may endure fire and not flie away.

Fraction is the breaking of some matter with ones hand, or with an instrument.

Frixion is the preparation of some medicaments, with oyle, butter, wine, vineger, &c. in a convenient vessell, for the correcting of bad qualities in them.

Fulmination, derived of *fulmen* a Latin word, signifying fire breaking out of the clouds, causing a sudden light great and bright, is a metallicall gradation, with excoction to an absolute perfection in *Cinerition*, whose puritie is declared by an effulgent splendor.

Fumigation is calcination of metals, by the sharpe corroding vapour of *Mercury*, *Philosophers Lead*, &c. boyling in a crucible, the metals cut into plates, and either laid over the *Orificium* of the crucible, or hanged over the fume.

Fusion is liquation by heat violent or moderate, for the separation of the pure from the impure.

Gradation is an exaltation of Metals in the degree of affections, whereby waight, colour, and conſtancy are they brought to an excellent meaſure, but the ſubſtance unaltered: ſo Gold is rubified, fixed, and purified.

Granulation proper to Metals, by infuſion on fire, and effuſion into water is their comminution into *granula*, or very ſmall drops like *Grana Paradiſi*.

Humectation, ſee *Irrigation*.

Ignition is calcination, the fire reducing violent bodies into Calx.

Illiquation is the commiſtion of terrene bodies with Metalline (as

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of *Lapis cadmia* with *cuprum*) but ſo as each retaines his owne ſubſtance.

Imbibition, a Philoſophicall operation is ablution, when liquor adjoyned to a body is elevated, and not finding vent, doth fall backe upon the ſame, and often waſheth it with Humectations, ſo long as it being coagulated, can no more aſcend, but remaineth wholly fixt.

Imbution, ſee *Infuſion* and *maceration*.

Inceration is the mixture of humiditie with that which is dry, by a gentle and not haſty combibition to the conſiſtence of mollified wax.

Incineration, ſee *Cinefaction*.

Incorporation is a ſudden addition of ſo much humiditie to exiccate matters as is required in the true conſiſtence of a mixt body, paſt, or a maſſe.

Infuſion is the preparation of medicaments, cut or bruiſed in ſome humiditie convenient for the purpoſe, a leſſer or longer time, whether it be an houre, one day or many, a weeke or a moneth, &c.

Inhumation is the ſetting of two pots (the head of the uppermoſt being very well covered and luted, with his bottome boared full of little pin-holes, and ſure faſtened to that which is underneath in the ground, and burying them with earth to a certaine depth, having a circular fire made for diſtillatory tranſudation *per deſcenſum*.

Inſolation is the preparation of ſimple or compound things by the heate of Sunne in the Summer, or a gentle fire in the Winter, or *in Balneo*, or *in fimo equino*.

Irrigation not much unlike immerſion is an aſperſion of humiditie upon things that are to be diſſolved, that ſo they may the more eaſily deliquate.

Levigation is the reduction of any hard and ponderous matter by comminution, and diligent contuſion into fine powder, like Alcool.

Limation proper to Metals (as Steele, Iron, Braſſe, Lead, &c.) is a preparation with a file, whereby they yeeld duſt for divers uſes.

Liquation is when as that which ſhall be made into one body, is diſſolved, that it can flow abroad like waves.

Liquefaction is the diſſolution of a Minerall body, by the force of a very gentle fire.

Lotion is a preparation of medicaments by water, or ſome other liquor to remove ſome evill and hurtfull, thing and to procure ſome good and profitable qualitie in them.

Lutation right worthy the name of *Sapientia*, is a medicine thin or thicke according to the heat and continuance of the fire, which ſtoppeth moſt exactly the *orificium* of the veſſell, if no vapour that paſſe out.

Maceration is preparation of things not unlike to *Humectation* in the manner of working, but in time, for ſome are infuſed three, foure, or moe moneths, and ſome a ſhorter ſpace.

Maturation is exaltation of a ſubſtance, rude and crude to that which is mature and perfect.

Miſtion is ſuch a compoſition of bodies, as inceration, incorporation, colliquation, and contuſion doe declare.

Mollition is the beginning of liquation, yet ſome things are mollified (as *cornu cerui*, Corrall, Ivory, Ungulæ, &c.) which cannot liquate.

Multiplication by projection, is of a body amagamated from 7. to 10. from 10. to 50. from 50. to an 100. &c. according to the force and quantitie of the tincture.

Mundification is the purgation of any matter by few or many operations from that which is ſordid and vicious, that onely the moſt excellent may be admitted to the worke in hand.

Nutrition is the parmiſtion of humiditie by little and little, for the alteration of the qualitie of the medicament.

Precipitation is when bodies corroded by *Aqua fortis*, or *Aqua Regia*, and diſſolved into water, Salt Armoniacke or *Mercury* caſt upon them, either by the abſtraction of the corroding vapour, are reverberated into Kalxthe tre made perfect medicines.

Probation is the examination of any matter, whereby we diſcerne what is excellent and perfect, and what corrupt.

Projection is an exaltation chiefely in Metals, by a medicine caſt upon them, which will ſuddenly penetrate and transfigurate, giving them another tincture.

Prolectation is extraction by attenuation of ſubtill parts, ſo that by the inclination of their rarified nature, they may be altred from the more groſſe parts.

Purgation like to ſeparation, is the clarification of impure liquor, having a thicke ſedement and ſpume by decoction.

Putrifaction is the reſolution of a mixt body by a naturall putritude in *callido humido*, or *fimo aquino*, &c. whereby it may be made more excellent.

Quartation is the ſeparation of Gold and Silver mixt together, by foure unequall parts.

Quinta eſſentia is an abſolute, pure and well-digeſted medicine drawn from any ſubſtance, either animall, vegetable, or minerall.

Raſion is the ſcraping or paring of a thing, either for expurgation of that which is unprofitable, or for eaſier pulverization.

Reduction

Reduction common to many operations doth reſtore a thing changed to his former eſtate and condition.

Repurgation is, whereby metals and other ſubſtances are purged from ſuperfluities of another nature, adhering to them.

Reſolution (the way to moſt excellent operations of Alchymie, cauſing both elements and cœleſtiall eſſences to ſeparate from their elementarie compoſition) of things commixt, is when the part one with another.

Reſtinction is a gradation, whereby metals or the like, candified by fire, are reſtinguiſhed in liquor of exaltation, and thereby made more noble, by how much a more excellent tincture and gloſſe is ſet upon them.

Reverberation is ignition reducing bodies (the fire quick reverberating and reflecting) into a very ſubtill Calx.

Section is the cutting of things great into leſſer parts, for the preſent occaſion.

Segregation is the ſolution of that which was whole and perfect into parts divided, which flow not together as colliquables diſſolved.

Separation is, whereby parts diſtracted are ſeparated every one alike having his ſeverall being in himſelfe.

Siccation is the drying up of excrementall humiditie in bodies, before the fire, Sunne, in the ſhade, or the like convenient place.

Solution, a principall part of Chymicall practice, whereby the incorporation of things coagulated, is diſſolved and attenuated.

Subduction is an abſtraction of juyces, oyles, and other liquid matters downeward by percolation, filteration, and the like.

Sublimation is when that which is extracted is driven to the ſublime part of the veſſell, and there ſubſiſteth, or when as betweene that which is ſublimed, and the dead head an aëry ſpace doth intercede.

Subtiliation is diſſolution, ſeparating the ſubtill parts from the groſſe.

Stratification, or *ſtratum ſuperſtratum* well knowne to Chymiſts, and uſed in cementation, is ſtrewing of corroding powder, or the like, upon plates of metall by courſe.

Torrefaction like ficcation, but more violent, is an operation drying, ſpeedily, parching and ſcorching that which is to be dryed before, or over the fire.

Tranſmutation is the mutation of a thing in ſubſtance, colour, or qualitie.

Tranſudation is when in deſcenſory diſtillation, the eſſence provoked, ſweateth through, and is carried *guttatim* into the receiver.

Vitrification is *Combuſtion*, converting Calx and Cineres into tranſparant glaſſe.

Vſtion is a preparation of things for eaſier pulverization, mutation of colour, facultie, &c. by burning them in a crucible, or in the fire.

THE EPILOGVE.

GEntle Reader, I had intended much more in my love to young men, to have written by way of inſtruction, namely, a Diſpenſatory touching the precedent particulars, with ſomewhat alſo concerning the Cure of the French Diſeaſe, with ſymptomes thereof, namely, the *Gonorea*, the *Bubo venerea*, the *Hernia Humoralis*, *&c.* But time hath overtaken me, ſo that now I am forced to conclude, having run through the cares of ſixtie nine yeares; old age being an enemy to ſtudy, for my ſight being weakened, my memory much impaired, and my capacitie utterly unable to performe ſo hard a taske, which will aske both large time, and much ſtudie to fulfill, and other occaſions beſt knowne to my ſelfe, and ſome ſpeciall reaſons elſe-where expreſſed in my precedent and ſubſequent worke, to which I referre you, for the further ſatisfaction; I reſt ready to doe good ſo long as the Almightie pleaſeth willing to be,

Thine in the Lord,

I. W.

FINIS.

THE EPILOGVE.

Gentle Reader, I had intended much more in my love to young men, to have written by way of instruction, namely, a Diphenlatory touching the precedent particulars, with somewhat also concerning the Cure of the Feminal Dilcase, with Symptomes thereof, namely, the Gonorea, the Bubo venerea, the Hernia Humoralis, &c. But time hath overtaken me, so that now I am forced to conclude, having run through the cares of fixtie nine yeares, old age being an enemy to study, for my sight being weakened, my memory much impaired, and my capacitie utterly unable to performe so hard a taske, which will aske both large time, and much studie to fulfill, and other occasions best knowne to my selfe, and some speciall reasons elsewhere expressed in my precedent and subsequent worke, to which I refere you, for the further satisfaction; I rest ready to doe good to long as the Almightie pleaseth willing to be,

Thine in the Lord,

I. W.

FINIS.

VIATICUM,

Being

THE PATH-VVAY TO THE SURGEONS CHEST.

Containing,

CHIRURGICAL INSTRUCTIONS

for the yonger sort of SURGEONS, imployed in the Service of his MAIESTIE, or for the COMMON-WEALTH upon any occasion whatsoever.

Intended chiefly for the better curing of WOUNDS *made by* GUNSHOT.

First published by Authority, *Anno* 1628, and now revised and inlarged by the Author, JOHN WOODALL Mr in SURGERY.

Omnia terrena per vices sunt aliena.

LONDON,
Printed by *E. P.* for *Nicholas Bourne.* 1639.

THE PREFACE.

LOVING Brethren, for as much as in times of war, as well as of Peace, men of our calling ſhould be ready *Ad omne quare*, for the ſervice of their King and Countrey: Wee and our Countrey have beene long happy in a bleſſed peace; and yet even now having rumors of warre, it is not amiſſe to be prepared for the contrary: Wherefore from the wiſe heathen Philoſopher, let us all learne as followeth (*Iam tua res agitur para cum proximus ardet:*) Our neighbouring nations are and have beene long in combuſtion; it is therefore wiſedome for us to be ready, and the rather we ought to take it into our better conſideration, becauſe at the firſt compoſing and writing hereof, namely in *July*, 1626. when as I publiſhed it, there were then, and no ware rumors of wars, and our Company of Barber Surgeons were then commanded by His Majeſties Authority forthwith to provide ſixteene of the beſt Surgeons as the then time afforded for his eſpecial ſervice by land, ſuch as were men moſt expert in the healing of wounds made with Gun ſhot; and generally for the moſt part, by reaſon of that long and happy peace that our nation had enjoyed, many good Surgeon being put to it at the firſt, were likely to have beene found ſomewhat to ſeeke therein; how much more then our younger men? wherefore the charge of providing, preparing, and fitting His Majeſties whole ſervice by land and ſea, being by his Highneſſe referred to our Corporation and our Company, having for that time made choyce of my ſelfe, and deputed me to the worke,

I held my ſelfe in conſcience and duty tied to do ſomewhat, although I confeſſe it was little, to the better enabling and encouraging of our younger men unto their duties in that point. But here under favour I muſt deſire pardon for a little digreſſion; namely that before my entrance unto any further diſcourſe, I acquaint the younger ſort of Surgeons my Brethren with thoſe eſpeciall favours, which it then pleaſed our moſt gracious King CHARLES, to beſtow upon our Corporation in particular, above and beyond his ever bleſſed Anceſtors, for the good of his Seuldiers and Sea-men, and our encouragements thereby, to animate and inable us the more heartfully to ſerve him: And namely.

Firſt His Highneſſe was graciouſly pleaſed, when alſo he increaſed the Sea-mens wages, to augment the moneth-ly wages of each Surgeon and Surgeons Mate in his ſervice by ſea and land, to above a third penny from former cuſtome; namely from nineteene ſhillings foure pence a moneth to thirty ſhillings. He hath alſo beene graciouſly pleaſed to give a free benevolence to the Surgeons in all His ſea ſervices, which never was given them by any of the former Kings nor Queenes of this Land before, as followeth, *viz.* To all Surgeons that ſerve in His Highneſſe own ſhips, I meane towards the furniſhing of their Surgeons Cheſts with Phyſicall drugs and medicaments, I ſay for each of them ten pounds; and to each Merchants ſhip five pounds, and to each new Caſtle-ſhip or Colliars-ſhip ſerving in his Highneſſe his affaires three pound. And, nevertheleſſe all the Surgeons in His Highneſſe ſervice have as formerly by the head of all men that are in pay in any of his ſhips or Land-ſervice two pence of each man by the moneth: And for the Surgeons in his Land ſervice, hee alloweth to the Surgeon Major of the whole Campe five ſhillings a day; and for his two Mates or ſervants foure ſhillings a day. Alſo His Majeſtie alloweth to each Surgeon two ſhillings and ſix pence the day, which is three pounds and fifteene ſhillings the moneth, and to each Mate three pound a moneth, and more over

allowed

allowed, and gave to each Surgeon appointed to 250. men, a ſurgery Cheſt of 17. pounds valew, free of account: And moreover His Maieſtie alloweth to the Surgeon Maior a ſtore Cheſt or Magazeen Cheſt of 48. pounds valew, for a ſupply to furniſh upon al wants and occaſions: And His Highneſſe was yet further wel pleaſed to give authority unto the Maſters and Governors of our Society, for to have the making, compounding, fitting, and ordering of all the medicines, as well phyſicall as chirurgicall, together with all other proviſions belonging to the Surgeons Cheſt. And further His Highneſſe hath referred to the ancient Maſters and the Governors of our Society, the preſſing of all Surgeons and Surgeons Mates or ſervants to Surgeons and Barbers; with alſo the taking up of any inſtruments, Cheſts, or ready made medicines in His Highneſſe name for his ſervice, if occaſion be not otherwiſe. Theſe favours and priviledges our Corporation have received from His Highneſſe, together with a new Charter, wherein he hath likewiſe graciouſly beene pleaſed to confirme all our priviledges formerly granted unto us; and hath given us divers new priviledges for the better ſubſiſtance of our ſaid Corporation in future times; as alſo we have never beene denied as formerly, to have monies impreſted before hand, for the providing a cheſt with ſurgery Inſtruments and ſalves. In regard whereof, and for that Surgeons ſhould with the better courage be inſtigated faithfully to performe their duties; I have preſumed in this preface to explaine his Highneſſe former favours, as aforeſaid, whereby our younger brethren may from age to age the better keepe it in remembrance; and to that end I have alſo further under favour I hope without offence, preſumed to ſet downe the effect of the order of the then Lords of his Highneſſe moſt honourable Privie Councell with the day and year in which ſome of the recited priviledges were granted and ordered, as alſo in part the forme and order how his Maieſties officers of his Navy have interpreted, diſpenſed, & diſpoſed of his Maieſties ſaid free-gift, according to the ſeverall burthens, ranks, and orders of the ſhips of his Highneſſe his nauy reſpectively, which are as followeth.

A List of the different rates of severall of his Majesties Ships, concerning his Highnesse free gift and impreſt, to each of them, namely as they were heretofore rated by the Officers of his Highnesse Navy, in the yeere 1626.

Great Ships of the first and second rancke were rated all alike. viz.

- *Mer. Honour*
- *Triumph*
- *Anne Royall*
- *Saint Andrew* — Free gift 10. li.—0—0; Impreſt—7. li.-10.-0; In all—17. li. 10. -0
- *Saint George*
- *Iames*
- *Repulse*
- *Charles*
- *Defiance*
- *Nonesuch*
- *Unicorne*
- *Victory*
- *Hen. Maria*
- *Vanguard*
- *Rainbowe*
- *Swiftsure*
- *Red Lyon*
- *Con. Reformation*

With the rest of the like.

Ships of the third rancke.

- *Assurance*
- *Guardland*
- *Bonaventure* — Free gift--7 li.- 10-0; Impreſt---5--0-0
- *Entrance*
- *Leopard*
- *Convertine*

And so of the rest of the List.

Ships

Ships of the 4 rancke.	*Adventure*	Free gift--5 li. 0--0--
	Mary-Rose	Impreſt 3--10--0
	Blake George	

Great Merchant men in His Majeſties ſervice at the rate of his Majeſties great ſhips, viz. 10 li. and 7 li. 10 s. ordinary Merchant men at the rate of his Majeſties ſhips of the fourth rancke, aforeſaid, namely 5 pound free gift, and 3 pound 10 s. impreſt.

Ships of the 5 rancke.	*Firſt Whelpe*	
	Second Whelpe	
Each Lyons whelpe. viz.	*Fourth Whelpe*	Free gift--3 li. 0-0
	Fifth Whelpe	Impreſt 3--0-0
	Tenth Whelpe	

His Majeſties Pinaces.	*Greyhound*	Free gift 3 li. 0--0
	Roe-Buck	Impreſt 2 li.--10-0.
	Or any of like account.	

New-Caſtle Ships or Colliers, at the ſame rate with His Majeſties Pinnaces.

The

The day of the grants of the aforeſaid order touching benevolences, was to my beſt remembrance the tenth of *July*, 1626 at *Whitehall*, by the Lords of his Majeſties Privie Councell, being then by them ordered to be paid unto the Maſters and Wardens of the Surgeons, ever from time to time before hand, and upon all ſervices for his Highneſſe; and for the better performance thereof, the ſaid Noble Lords were pleaſed to pray the Lord Treaſurer to take knowledge thereof, and to cauſe the monies accordingly to be forthwith iſſued as aforeſaid, as for a ſupply for the providing of Phyſicall drugs and medicaments. And further the ſaid Honourable Lords were then pleaſed to order, that all ſuch other monies as uſually had beene allowed by way of impreſt to any Surgeons in His Maieſties ſervice, towards the providing and further fitting of their Surgery-Cheſts, ſhould together with the former monies be likewiſe paid into the hands of the ſaid Maſters and Wardens, ever for the time being in dew time and before hand; who for the better effecting of the intents and ſervice aforeſaid, were ordered to ſee the ſaid monies faithfully and frugally beſtowed, and ſhould for the ſurer performance of it, orderly have the making, ordering, fitting, and compounding of all the medicines, as well phyſicall as chirurgicall; as alſo all other proviſions belonging to a Surgeons Cheſt; or to appoint ſuch others for the effecting the worke, as they ſhould at their perils anſwer for their faithfull performances: All which Cheſts and proviſions whatſoever therein ſo fitted and provided as aforeſaid, being ready, the Maſter and Wardens are by the ſaid order commanded to ſee every of them to be ſafely delivered under locke and key, unto His Majeſties officers whom it may concerne at *Tower-Wharfe*; that all things therein provided and incloſed might the ſafelier come on board the ſhips, for which they are deſigned: All which Allowances, Injunctions, Priviledges and Commands, were then by the ſaid moſt Honourable Lords thought fit to be for ever hereafter continued to al ſhips or Fleets in his Highneſſe future ſervices, as is more plainely manifeſt by the ſaid order; the which no doubt is extant, and unto which if occaſion require, relation may be had.

Thus loving Brethren, having acquainted you with theſe His Majeſties favours unto our Corporation, it followeth in my duty that I ſhould acquaint the younger ſort of Surgeons with the uſe of the Surgeons Cheſt, I meane the medicines in this *Viaticum* contained; in ſome methodicall manner, according to the inſuing expreſſions of the following Treatiſe, were it not that time haſtens me to an end, before I begin: Yet nevertheleſſe I have ſtrained of time to lend the younger ſort a word or two in this *Viaticum*, not to all as a Teacher, but as a loving remembrance to the elder, which I pray you to peruſe and uſe as you have occaſion. And ſo in Gods name without painting of phraſes or collecting of great Authors for my Vouchers; my Method you may know by the plaineneſſe of the ſtile; the which Method is no other then the old beaten Path-way of al Surgeons, wherein each Artiſt ought to be experienced. And if any Artiſt

by

by forgetfullneſſe erre, I deſire to informe his memory: And as for the younger ſort, I know it is charity to ſhew them, for they have need, and ought to deſire and ſeeke knowledge, according to an old Doctrine of that ſweet *Lillie*, in his Grammaticall inſtructions, *videlicet*,

Qui dubitat, qui ſæpe rogat, mea dicta tenebit;
Is qui nil dubitat, nil capit inde boni.

In Engliſh to this effect.

Who doubts, enquires, and knowledge ſeekes,
doth Lillies *rules make good;*
Whileſt he that's wiſe in his owne conceit,
puts on the Idiots hood.

And to conclude, I well knowing you could not alwayes have the advice of the grave and learned Artiſts at hand, in military affaires, I therefore preſumed to the utmoſt of my latchet, hereby to afford you my following helpes, which I hope by the friendly Reader will, if he want better, be taken in friendly part.

Vale in Chriſto.

An

An Epitomy of a Surgeons Cheſte, and of the Contents thereof, for his Maieſties ſervice, by addition or omiſſion of any the particulars, to be altered according to each ſeverall Ships proportion, time, or different occaſion, upon any voyage.

Inſtruments.

Diſmembring Sawe.
Diſmembring knife.
Inciſion knife.
Head Sawe.
Treſine.
Gliſter { *Pot.* / *Pipes.*
Small ſirings with pipes.
Cathetor.
Speculum oris.
Cauterizing Buttons.
Flamula.
Forceps ſtraight.
Forceps crooked.
Paces.
Forcers or punches.
Crowes bils.
Spatulaes.
Weights and Scales.
Morter and Peſtill.
Strainers.
Spunges.
Skillet.
Chafingdiſh.
Pannikins.
Mallet and Chezell.
Bloud Porringers.
Cupping Glaſſes.
Potion Cup.
Spoone large.
Towe.
Funnels.
Cap paper.
Leather skins.
Splints and Tape.
Skillet large.
Clouts and Rowlers.

Emplaſtra.

Stipticum Paracelſi.
Diachalcitheos.
Oxycroceum.
Deminio.
Meliloti.
Cumini.

Unguenta.

Baſiliconis.
Viride.
Populeonis.
Album.
Triapharmacum.
Dialtheæ.
Diapompholigos.
Ægyptiaci.
Linimentum Arcei.
Digeſtive.
Mel Saponis.
Axungi Porcini.

oſlicum Liquidum.

Olea.

Catulorum.

Hipericonic

Compoſed and publiſhed by *Iohn Woodall*, Maſter in *Surgery*, *Auguſt the* 11. 1628.

Hipericonis cum gummi.
Roſarum.
Chamomillæ.
Anethi.
Lilliorum.
Lini.
Pulvis { *Reſtringens maius.* / *Defenſat.*

Simplicia.

Bolus verus.
Maſtich.
Myrrhe.
Pix Greca.
Lapis Calaminaris.
Bolus.
Præcipitatum.
Sublimatum.
Lupines.
Cantharides.
Alumen { *Crude.* / *Combuſt.*
Vitriolu { *Album.* / *Viride.* / *Combuſtum*
Farina { *Fabarum.* / *Hordei.*

Hearbs.

Woormewood.
Mint.
Roſemary.
Time.
Centaury.
Hipericon.
Scordium.

Electuaria.

De Ovo.
Diſcordii.
Mythridat.
Phylonium perſ.
Theriaca { *Andromachi.* / *Londinenſis.* / *Diateſſeron.*
Confectio { *Hamech.* / *Alkermes.*
Diatrion Pyperion.
Diacatholiconis.
Diaphæniconis.
Lohoch Sanum.
Laudani.
Aquilla vitæ.
Aurum vitæ.
Extract. Chatholicon purgans.
Succus { *Liqueritiæ.* / *Lymonum.*

Syrupi.

Violarum.
Limonum.
Menthæ.
Roſarum ſolutivi.
Diamoron.
Oximel.
Mel Roſarum.

Conſervæ.

Roſarum.
Prunellorum.
Barberorum.
Cochleariæ.

Pilulæ.

De Euphorbio.
Ruffi.
Cochiæ.
Aureæ.
Pulvis { *Sanctus.* / *Arthretic.*

Aquæ.

Cæloſtis.
Cinamomi.
Roſarum.
Menthæ.

Menthæ simplicis
Cum Vino
Card. Benedict.
Plantaginis
Aquævitæ
Angelicæ
Lotion
Spirit. vini
Acetum vini

Olea.

Vitrioli
Terebinthinæ
Origani
Mel Depurat

Simples.

Aloes Succotrinæ
Senæ elect.
Rhabarb. elect.
Colycintis
Opii
Cornu Cervi { *Rasuræ* / *Combustæ*
Cerussæ
Mummiæ

Sperma Ceti
Cortices granatorum
Galla
Radices Liquiricæ
Semen anisi.
Fæniculi
Lini
Cuminæ
Fenum Græcum
Flores { *Comomillæ* / *Melilotæ*
Baccæ { *Lauri* / *Iuniperi*
Terebinth.
Hordei excort.
Com.
Stibium
Cambogium.
Bladders.
Bags
Pots
Glasses
The Chest
A padlocke
Petty charges.

WOODAL'S

VIATICUM,

A HELPE TO THE SURGEONS CHEST.

The first dreſsing of WOUNDS, *made by* GUNSHOT.

AFTER extraction of unnaturall things, forced into the wound with the Bullet, which ought with al circumſpection, care, and poſſible eaſe to the patient, to be effected for fear of hurting the offended Arteries, veines and nerves &c. And alſo all ſuch fractured bones greater or leſſe broken by force of the bullet, be taken out; I ſay of all ſuch of them, as may without danger of Life or Limb be immediately removed for the first dreſsing, wherein note that a fractured bone, though wholy divided from the greater fixed part thereof, is not as by a generall rule alwayes to be cut or forced out at the firſt dreſsing, except it doth apparantly endanger a *Gangrena*, or other fearefull accidents by pricking of Nerves or the like, for by amooving it, a Flux may be induced, or ſome other offence, but you ſhould doe well rather to forbeare ſuch bones for the firſt dreſsing at the leaſt, and until nature, or other juſt reaſons in the true Art of healing doe compell, and to proceed to the dreſſing.

Draw not fractured bones out at the firſt, without caution.

Tarry if you may while nature helpes.

In the more ſimple ſort of Gun-ſhot wound, as followeth, I meane in wounds, where no *Gangrena* may be ſuſpected, neither immediate

Flux, nor furtive hemorrhage, dreſſe the Patient either with Artificial Balme, or *Oleum Hypericon: cum Gummis de Apericij, Oleum Cattulorum*, or *Arceus Linament*, or one of theſe, and apply it warme, and ſomwhat warmer then the Patient would willingly ſuffer it, and cover the wound with an Emp. of mellilot ſtiptic: *Paratelſi, Minium*, or any other good Emplaiſter, that is according to Art, and namely according to the temper of the griefe, ever to make choyce of hotter or colder Emplaiſters, not omitting convenient bandage, I meane due ligature, and ſo proceed in Gods name, as in all contuſed wounds is moſt convenient to the end of the worke, that is to ſay, firſt to ſuppurate and digeſt, then to mundifie, and then to incarne, and ſo on to ſigillate, or ſiccatrize with due reſpect, if occaſion be, by Laxative or other remedies, to temper and fit the body by good Regiment of dyet, as by purging, bleeding, &c. And for one particular, obſerve that in Gun-ſhot wounds, almoſt in all dreſſings, the ſpirit of Wine doth well with ſome of the aforeſaid balmes, untill the wound be well mundified at the leaſt.

Balm in the cheſt.

Empl. fitting.

Order in curing.

Spirit of wine.

But in wounds, where great danger of a *Gangræna* is to be feared, the Surgeon hath nothing more ſafe, for the firſt dreſſing, then *Vng: Ægiptiacum*, and a little ſpirit of Wine, ſome what too warme, put in upon ſoft Linte, or fine towe pledgents, or by a *Sirring*, to bee carryed in at firſt, into the bottome of the wound: which done, with ſome good aſtringent defenſative medicine, and fit bandage, let it bee bound up, and if the Surgeon be not forced thereunto, let not the wound be opened againe untill 48 houres be paſt, upon the firſt dreſſing, and ſo alſo upon every *Cauſticke* application. Then at the next dreſſing, if *Fluxes* hinder not, have ready, (if it may be) white wine and honey, for a fomentation, or faire water, and *Mel* for neceſſity, if better cannot be had, and with a little *Aquavitæ* added, if you thinke fit, with ſtupes, very warme, foment the wounded part a pretty ſpace, then apply untill full digeſtion, one of the aforenamed Balmes, warme, or with the ordinary digeſtive of *Terebinth., vitellum ovorum &c.* and cover it with an emplaiſter, and embrocate the part about, with *Oleum Roſarum Camom. Aneth.* or the like, and bind it up, and after dreſſe the wound but once a day, without urgent neceſſity, but faile not to dreſſe it once every day, and more, if the Surgeon ſee cauſe.

Dreſſing of great wounds.

Time of dreſſing.

But I hold it fit that the Surgeon leave off, *Oleum Hyperiton. cum Gummis* in time, for that it hath *Oleum Terebinth*: therein, and ſo may be too quick, and rather change from that, and uſe *Arceus Liniment, Oleum Cattulorum*, or ſome digeſtive of your owne practice, untill perfect digeſtion. And if accidents chance not, the Surgeons Method may be to proceed as in all contuſed wounds, onely as is ſaid, I adviſe the Surgeon to make uſe of pure *Aqua vitæ*, or rather ſpirit of *Wyne*, with *Ægyptiacum*, where he findeth not a juſt cauſe to the contrary.

Certaine

Cautions, Advices, and Instructions for the younger sort of Surgeons, in Wounds of Gun-shot.

COnceale from the Patient the great danger of the wound; except just cause urge thee to acquaint him with it.

Fomentations are very good medicines in Wounds with Gun-shot, but foment not at any time, except you can have convenient fire at hand, and let ever your Fomentations be very warme applyed. *Fomentations.*

Foment not too long at any one time, neither use it but upon urgent occasions.

Embrocate often, if no *Gangrena* be at hand, whether you have fire or not. *Embrocation.*

Let all your *Vehicles* for your Medicines, as tents, dorsells, plegents, &c. be soft and pleasing to your Patients, as much as in true Art may be, and cram not the wound too full at any time, especially Wounds inciſed for hindring unition of parts.

Also, if you can conveniently come to the work, inlarge not, especially in contused wounds, where danger may be feared, otherwise doe it warily; observing that you doe it not to thwart any member, neither any Veine, Artery, Nerve or Muscle, as neare as you can possible. *Inlarging of Wounds.*

No wound of Gun-shot can be said to be a simple wound, neither ever was there any Artist, that could truely say, that he healed any gun-shot wound by the first intention of Vnition, without due suparation, no nor any contused wound whatsoever; for the composition of Gun-shot wounds, are ever reall and very substantiall, witnesse the poore patient, where Fibres, Nerves, Membranes, Veines, Arteries, Bones, *&quid non*, suffer together so, that such wounds, in their recency they resemble Vlcers rather then wounds; and the difference of these from other contused wounds is, That other contused Wounds for the most part suffer but by way of contusion onely, and these by contusion and dilaceration, if not fraction of bones &c. whereby all the whole member suffereth together, and also the parts adjacent, and that in a high degree. *Gunshot wounds ever compound.* *Difference of contused wounds.*

If discolouring blistering or other apparant shewes of a *Gangrena* appeare, give the patient a Diaphoreticke cordiall, then scarifie gently at the first, and deepely afterwards as cause shall urge, and have ready a *Lixivium* made of water and ashes, to the height of an ordinary Lee, that women use to drive bucks with, and put a reasonable quantity of common Salt into it, and when it is cleared, if you have hearbes, as

Scordium, *Wormewood*, *Centaury*, *Hypericon*, *Camomil*, *Melilot*, or the like, or *Lupnies*, make uſe of them according to Art, it will bee much the better, if not, uſe it without, and apply it very warme, with ſtupes, often ſhifted, and wrung out, and if that cannot be had, uſe ſalt water for a fomentation very warm, rather then want a Medicine: *Aqua vitæ* is alſo precious in all *Lixiviums* againſt *Gangrens*, but you muſt not boyle the *Aquavitæ* without errour, for the ſpirits will evaporate, and the vertue reſteth in them.

Obſerve in great lacerated wounds, as followeth, viz. If you finde by the wound, the one halfe of the member to be taken away, there is no hope to ſave on the reſt, but you are rather to make preſent Amputation, eſpecially if the patient upon information of his danger bee willing, for that the reſt is contuſed, and muſt therefore admit by conſequent, ſome loſſe of ſubſtance, by ſupperation ever in a contuſed wound, and then the remaining part can doe no ſervice to the body, but will much endanger the life of the patient, by the expence of blood and ſpirits in the ſtriving to ſave it, and be but a hindrance: and I dare ſay, that if but halfe of any member be taken away, with the fracture of the bone, it is impoſſible to ſave the reſt of it on, to doe any ſervice: If you have hæmorrage, I meane bleeding, or furtive gleeding, or weeping of veines or arteries, in your worke, ſearch for that veine or artery that bleedeth or gleeteth, and try if you can make ligature on it, if you cannot, make ligature, which ſeldome or never you can in Gun-ſhot wounds, then apply to the end of the veine that weepeth, an actuall cautery, a ſmall one will ſerve, but apply it like it ſelfe, very hot, and apply it not all over the wound, onely to that veine, if you can, that bleedeth, you may if the Flux be not great, uſe burning hot *Egyptiacum*, upon a button of lint dipt, and quickly and neatly brought to the place, whilſt it is hot, and then well boulſtred.

Iuſt cauſe of amputation.

But a ſmall actuall cautery is the ſafer, and maketh better worke, or the Surgeon may uſe reſtrictive powder, adding thereto burnt Vitriol a little, or burnt allum, and precipitate mixed which maketh a ſtronge eskar, and often reſtraineth a great Flux, being applied thereon artificially, I onely precipitate will ſurely make bones fowle in contuſed wounds, for which cauſe I affect it not.

Actual Cautery.

Reſtrictive powder.

But ever take heed to avoid the old received errour of unwiſe practitioners, whoſe uſe is to cram the wounds bee they inciſed wounds or contuſed wounds, as is ſaid full of bole or reſtringent powder, or ſome other ſtuffe, and then thruſts in pledgents or dorſels into each corner of the wound, yea ſometimes forgetting to take all out at the next dreſſing, yet thinke they have done all workeman like and very artificially, not conſidering the harme, that often enſueth thereby. I dare ſay that in contuſed wounds of Gun-ſhot, by ſuch errours, they force and draw a *Gangrena*, if not death thereby, by hindering naturall unition, by obſtructing the parts, and grieving the patient, in keeping the wounded parts from healing. It is a ſafe and faire way at the firſt dreſſing, ever to ſtrive to joyne together the parts of all recent wounds, and unite the wounded parts if it may be with this cauti on, to order that fit

To take heed of, an old errour.

breathing

breathing be left to evacuate the peccant humours, whereof there is ſmall feare in lacerated wounds, and then to apply apt, and fitting aſtringent medicaments outwardly over all, together with apt and due ligature; and by that courſe to ſtay a fluxe, but in contuſed and lacerated wounds of Gunſhot, the Surgeon hath not that benefit, but muſt truſt to other helpes not ſo ready, namely, as is ſaid in the leſſer wounds, to very warme Balmes, aſtringent defenſatives, and good ligature, and in greater wounds, to cauſticke medicaments, Cauteries and forceable helpes to repell fluxes, &c.

But in the Surgeon his carefull deſire to reſtraine fluxes, let him ever beware of over hard ligature, as much as is poſſible, which is alſo a common dangerous errour, and certainely draweth on evill accidents, as *Phlegmon Gangrena, &c.* as daily experience telleth. *A caveat.*

Likewiſe on the other ſide, over-ſlack binding is alſo bad, due comly and ſmooth ligature, with the due compoſing the parts wounded, with ſoft and ſmooth boulſtring, greatly honoureth the Artiſte and cureth the patient almoſt as much as the medicines doe.

Obſerve alſo, that you put never one Cauſticke or Eſcaroticke medicine after another too ſoone, namely, not untill the firſt eskarre hath beene gon at the leaſt three dayes. If in a contuſed wound of Gunſhot any ſlough or putrid part, as proceeding from the heads of the muskles, arteries, veines, or the like, appeare in a contuſed wound, which needeth an Eſcaroticke medicine, and the Surgeon doe deſire to cleance that part, let him uſe an artificiall Cauſticke medicine, namely, hot *Egiptiacum*, or an actuall Cautery, if you can apply it onely in that place, and not all over the wound, for in truth the uſe of them is very good in contuſed wounds made by Gunſhot, and yet you are to conſider, that as too much gleeting, weeping, or expence of humidity from wounds of Gunſhot is dangerous many wayes, ſo too much uſe of drying medicaments in wounds made with Gunſhot, is no leſſe dangerous by ſtopping the pores and repelling the peccant humours, by reaſon of the contuſed blood collected, being choaked in the wound, aptly endangering a Gangrena, and other deadly accidents incident thereunto. *Over-drying medicines dangerous.*

Now a word or two in want of the grave Phyſician, how the young Surgeon may in part demand himſelfe being put to it, for the more happy performance of the cures made with Gunſhot, which are very much regulated by the government of the Patient, touching his dyet, as alſo in the carefull keeping his body in temper from much coſtiveneſſe, and alſo to ſtay inordinate fluxes, thereby to prevent accidents, as Feavers, &c. *Adviſe touching the generall regiment of wounded men.* *Dyet.*

And further alſo to meet with an helpe to cure evill accidents when they happen to the effecting whereof, good dyet and other fitting helps are to be wiſhed, might attend valiant men, which fight for their Countries honour and defence, which failing, much with brave Souldiers, and valiant Sea-men, at Campe and Ship, there the Surgeons muſt take it, as they can have it, and make uſe in neceſſity of what the

the Surgeons cheſt affordeth *viz.* If the patient before his wound had not a looſe body, let the Surgeon give him a Suppoſitory or Gliſter, & if he ſeem diſpoſed to a feaver, though he hath bled by his wound, yet if his ſtrength be anſwerable, open a veine on the contrary ſide of his grief, but purge him not being wounded without very juſt cauſe, rather keepe him by gentle meanes, to have the benefit of nature, either by Gliſter or Suppoſitory, if once in two dayes hee have not a ſtoole; and further, if he be diſtempered with heat, make him a Barly-water, *viz.* Water two gallons, Barley 6. ounces, Liquoriſh one ounce, or juice of Liquoriſh two dram's, boyle it gently a little, then caſt away the firſt waters, if water be plentifull, elſe not, and boyle it in freſh water, till one third part be ſpent, and being boyled and clarified to the ſaid decoction, add ſome few drops of oyle of Vitrioll, to make it ſomewhat ſowre in taſte, but not too much, but if to this 6. graines, of *Confectio Alkermes*, with one ſpooneſull of Roſe-water were added, the drinke would be much the more gratefull in taſte, and more profitable.

Suppoſitory or Gliſter.

Freſh water oft wanting at Sea.

I conceive it will be needleſſe to urge a courſe for a ſparing dyet for Souldiers, or Sea-men at Sea, for I feare gluttony will not be their ſinne. But if fulneſſe of body be a hindrance, the Surgeon hath meanes to evacuate, as for a vomit by *Stibium*, the infuſion of 4 graines, if ſuch a medicine be thought fitting, as in able bodyes may be borne, or by laxatives, as *Confectio Hamech*, ſixe drams for a doſe, *Diaphenicon* or *Diacatholicon*, the doſe to an able body is a full ounce. The Pills in the Invoyce in this Surgeons Cheſt, upon their ſeverall occaſions, one dram is a doſe of any ſort of them. Alſo of *Pulvis Sanctus* may be given two drams, of *pulvis Arthriticus* one dram; and if Cordials be required, the Surgeon hath in his cheſt to provoke reſt in Feavers ſeverall ones, as more particular, there is *Diaſcordium*, which he may give to the full of two drams for a doſe to a ſtrong body, either in wine or water, as he pleaſe, or in a *Bolus* or lumpe of it ſelfe.

Pills.

Alſo he hath *Landanum*, which he may ſafely give 3. or 4. graines to aſſwage paine in painefull wounds; to give reſt in Feavers, to ſtay fluxes and in divers other cauſes being uſed with judgement, and provided, that the party which taketh it be not coſtive.

Vſe of Landanum.

Likewiſe in fluxes of the belly, accompanied with crude nauſeouſneſſe of the ſtomach, as alſo againſt venemous or peſtilentiall infection of the blood, there is in the cheſt *Phylonium Perſicum*, of which the Patient may take from one ſcruple to halfe a dram, and to one dram ſafely in a reaſonable body, and this is a ſafe medicine, which cauſeth reſt and corroborateth the ſtomach, and mightily prevaileth to ſtay a fluxe of the belly, and doth alſo correct venemous and maligne humours, and is therefore very fit to be uſed in fluxes that be contagious or peſtilentiall, after ſome fitting evacuation if occaſion be. What I here write, it is of mine owne practice, you may take it on my word for truth, for you ſhall find it to be ſo, if with due caution you make uſe of them. Theſe three Cordials as is ſaid, aſſwage paine (*viz.*) *Diaſcordium*, *Laudanum*, and *Phylonium*, or either of them

them alſo they ſerve well to coole or contemperate the blood.

Cordials to ſwage paine.

The Surgeons cheſt containeth alſo divers other Cordiall medicines, which may be profitably adminiſtred, each upon due occaſion. *viz. Confectio Alkermes*, either given alone, or to arromatize any purgative or Cordiall medicine, from 4. graines to a ſcruple for a doſe.

Of Cordials in generall.

Aqua Cœleſtis, and Cinamon water to refreſh the Spirits, halfe a ſpoonefull or a ſpoonefull for a doſe, and ſo of Spirit of wine, and alſo *Aqua vitæ* made of wine, which ſo much as it containeth of the ſpirit of wine, is *quaſi ſpiritus vitæ*. Alſo the Surgeons cheſt hath againſt contagion, and the Plague, *Mithridate, Ther. Londinenſ. Diateſſar. Elect. de Ovo*, as alſo *Diaſcord. Aurum vitæ*, and *Laudanum* mentioned, all theſe being proper for Peſtilentiall occaſions, the uſes and vertues of which I deſire to touch, though but in a word. And for example, if the Surgeon deſire a Cordiall to be made to cauſe reſt, it is made either of *Laudanum* to three grains, or to 4 grains as it is ſaid, or *Diaſcordium* 2 drams, or *Philonium* to one dram, mentioned. And note that *Laudanum* is beſt to be taken in a Pill, becauſe of his ungratefull taſte, and *Philonium* in a *Bolus* or lumpe, for the like reaſon, and ſo alſo may *Diaſcord.* be uſed well, and eſpecially in warre, where neither the adviſe of the learned Phyſician, nor the helpe of the expert Apothecarie is at hand, but if the Surgeon be occaſioned, and that he would have *Diaſcor.* to be given in a potion, then let him take of *Diaſcor.* 1 dram of white wine or faire water 3 ounces or foure, of Sirrup of Violets, halfe an ounce *Confect. Alkermes* eight graines; *Oleum Vitrioli gutt. quatuor*, and let the patient drinke that potion and incline himſelfe to reſt.

Note.

Cordials comfortative.

Alſo if a Cordiall to comfort the ſpirits be required, then the aforeſaid Cinamon water, *Aqua cœleſtis*, or *Aqua vitæ* of wine is at hand, without mixture or addition, or with ſome addition, halfe a ſpoonefull, or a ſpoonefull for a doſe.

If againſt the malignity of the blood, or any peſtilentiall contagion be feared, then in ſuch a caſe the patient may take as followeth, R. *Diateſſar.* two drams, *Mithrid.* one dram, *Elect de ovo* one ſcruple, diſſolve or mixe them together, and take it in white wine, claret, or ſacke, or in *Cardus*, or faire water for need, of any the aforeſaid, to the quantity of foure ounces, and ſweat thereupon, and if the contagion be fierce, the patient may reiterate ſuch a ſweating medicine each eight houres, ſafely for three times, or *Aurum vitæ* gr. 8

Theſe or any of theſe other Cordials, may be given in other waters, and other mixtures, according to the diſcretion of the Surgeon, the time, place, and different occaſion conſidered, and for need, the aforeſaid Cordials or any of them, may be taken in a *Bolus* or lumpe. Likewiſe *Mithridate* or *Andromaches* Treacle a dram or two drams of either of them, in white wine, in *Cardus* water or in beare, or water for a need, may ſafely be taken for a Cordiall, or in a *Bolus*, if the patient like it ſo.

Forltortions or gripings of the ſtomach or bowels.

Alſo *Theriaca Diateſſaron*, three drams for a doſe may be taken, either as it is in a *Bolus* or lump to be ſwallowed downe, and even ſo taken

taken, it is an excellent Cordiall to provoke ſweat, to remove tortions, ſtitches or gripings of the ſtomach or lower belly, or againſt any paines therein, alſo it reſiſteth all putrifactions, and peſtilentiall vapours, and is the moſt antient Triacle of all others, my ſelfe have had very much, true and good experience of it, and would truſt my life upon it though not before the two aforeſaid *Alexifarmiks*, and the *London Triacle* in like manner is to be uſed, and is a very good Cordiall: *Elect. de Ovo*, is alſo of it ſelfe a ſure good Cordiall, a ſcruple I meane, twenty graines thereof in a *Bolus* or lumpe, or in wine given, it reſiſteth peſtilentiall venome, and refreſheth the ſpirits, and either alone, or as aforeſaid mixed with other Cordials; *Aureum vitæ* is alſo a true Cordiall, for it comforteth the heart, provoketh ſweat, and by the pores of the skinne, expelleth poyſonous vapours, I have had good proofe thereof upon my owne body, when I was ſtrucken with the Plague.

A Cordiall.

Conſer. Roſarum, is uſed to refreſh and ſtrengthen the ſtomach, either alone, or if you intend to coole and contemperate the blood, to purpoſe, adde a few drops of oyle of Vitrioll, to alittle thereof, and if to warme the ſtomach, mixe *Mithridate* or Treacle, one part, and Conſerve of Roſes two parts, and give it ſo in a *Bolus*.

A contemperative Cordiall.

Conſer. Barberies may be profitably kept, either to mixe with cooling Barley waters, or Juleps to refreſh the appetite and the feebled ſpirits in Feavers, or ſometimes to give little of it in a *Bolus* or lumpe, to give a reliſh to the mouth, to cauſe appetite in Feavers, and to expell nauſeous diſtempers.

Of cooling Iuleps.

There is alſo in the cheſt *Oxymel ſimplex*, which I uſe in the Surgeons cheſt, in want of ſirrop *Diamor.* as being nothing inferiour thereunto, for Lotions in the mouth & throat orderly uſed, it ceaſeth inflammations, as alſo for the other vertues it hath exceeded *Diamoron*, as namely, in the ſwaging of tumours and paines, this is a ſingular medicine, and alſo in *Hernia humeralis*, being tumours of the teſticles and *ſcrotum*, it excelleth them, if it be mixt with a Cataplaſme of Beanemeale boyled in beare, with a little oyle of Elders or Roſes, and a little wax, ſo that the whole quantity of the Cataplaſme being by gueſſe two pound, if ſo then, put about ſixe, or ſeven, or eight ounces of *Oximel* thereunto and boyle it to a body, and it is an admirable good medicine, for it diſcuſſeth and ſafely repelleth ſuch tumours in their increaſe, with the helpe of Phlebotomy and a vomit, where the patient is ſtrong, which tumours by the patient his delaying of time, or by errour of the Surgeon, will otherwiſe come to ſuppuration, and prove fiſtulaes incurable, but hee that will cure ſuch tumours, muſt have an artificiall ſacke-truſſe, and be ſure that the griefe be truly and eaſily borne up at all times of the whole cure, and *Oximel* inwardly adminiſtred, purgeth the ſtomach and intrals, openeth obſtructions, and yet without any manifeſt ſigne of heat, and thereby helpeth much in feavers ingendred of groſſe phlegme.

Cure of Hernia humeralis.

Of *Lotions* generally uſed in the Surgeons Cheſte, the moſt common is of *Sanative* hearbs made in the Summer with water or wine or both

both, and honey, but at Sea if a laxative or washing lotion in need be required, faire water with as much Allum therein, as will make it tart, and so much honey as will give it a gratefull taste, and there is a lotion for a shift, or if in the diseases of the Scurvy a lotion be required, then use Copperas instead of Allum, or sometimes *Vnguent. Egyptiacum*, which is a most fit medicine for Ulcers of the mouth, or throat, the grieved part being touched very hot therewith, and being applied with a *Probe* armed with Linte.

Lotion *at Sea for a need.*

And to wash and coole the mouth in feavers, I often take faire water, foure ounces, of Rose water halfe a spoonefull, a little sirrup of Violets, or Mel for a need, and a few drops of Wine Vinegar, or *Oximel*, or Oyle of Vitriol, a few drops onely to make the Medicine tart, I meane the Lotion. I have beene taxed that my proportion hath not sufficient medicines conteined therein for wounds with Gunshot, but if any please to looke into the particulars, and well consider them, hee will finde that the whole scope of the Surgeons Chest, is of purpose contrived to that end, and that there is not any one Medicine therein, but upon the maine, or upon the by, tendeth that way: for a wound of Gunshot at the first view representeth a wound, an ulcer, a Fistula, yea and sometimes a fracture, and a dislocation, and by accidents calleth unto it a feaver, an Apostume, a Gangren, *& quid non*, yea without Gods Mercy joyned, and the great care of the discreet Surgeon, death followeth. Judge then if ought be in the Surgeons Chest, which in such a wound upon some occasion may not be found usefull.

A true description of a wound with Gun-shot at the first view.

And for an instance, the Chest containeth for the first intention curative of burnings with Gun-powder, *Vng. Populeon*, *Album triapharmac. Diapomphol. Mel. Saponis*, *Oleum Lini*, *Ceruſa*, *Mel depurat.* being all directly fitting for the first intention, namely for taking out of the fire, and yet the Chest hath diverse other helpes; as for an example: a linament may be made of *Minium*, or *Diacalsitheos*, and Oyles either of Linseed, or Roses, very profitable for that use.

And for all the rest (as is said) of wounds of Gun-shot, so I say of ulcers made by Gunshot, the whole scope of all the Sanative Medicines in the Chest, according to their severall intentions, and times, sute fitly to finish the cures.

But say some others, the proportion is very much wanting of restrictive or astringent Medicines, to stay Fluxes, or to amputate upon occasion, wherefore to satisfie the young benevolent Surgeon desirous to be informed; I answer first, that there is *Pulvis restringens Magis*, a sufficient proportion, also Bole, Wine vinegar, Mirrh, Allum, Crude Vitriol, Vitriol combust, Mercury Precipitate, sublimate Beane and Barly Meale, Gaules, Pomgranate Rindes, and whites of Egges.

Astringent, Restringent, or restrictive Medicines.

Besides good Ligature and boulsters ready, all which with Iudgement and discretion used, I dare say are sufficient; and for one instance namely, that three pound of the strong restrictive powder is sufficient in quantity for a reasonable Sea-Chest. Vpon the 24 of *July* 1628, I tooke off two members, being both legs, whereof one above the knee, with one ounce and a halfe of the powder to both, and had a fourth part

to ſpare of the made medicine. There is alſo an aſtringent defenſative powder, prepared and made ready for uſe, as hereafter followeth.

And if all what is ſaid, with alſo the helpe of *Phlebotomy* ligature actuall and potentiall cauteries, will not ſuffice, then I am I confeſſe miſtaken.

Common practice

Note, in burnings with Gun-powder, that if the face or hand bee burned, I have found it beſt from the firſt to the laſt, namely, to the end of the cure, to uſe *Vng. Album*, either mixed with *Populeon*, or with Linſeed Oyle, or *Vng. Diapompholl*, is fully as good made into a very thin liniment, and warme, laid on the face with a feather, and no clouts at all, nor ought elſe to cover the face, this healeth excoriations or ſcorchings beſt: or that the Surgeon take Ceruſe, grown'd in a mortar, with linſeed oyle, and apply it as the former, I have approved it to be be very good. *Tripharmac.* is alſo very good ſo uſed.

A note in the cure of burnings in the face.

I ſpake but now of honey for burnings, and who ſhall prove it ſhall finde it ſafe to take out the fire, and after to heale the griefe, but is ſomwhat more painefull then ſome other medicines are, it is onely once a day to be applied upon browne paper, the paper being firſt rubbed ſoft, and the Medicine ſpread thereon, and in that manner applied, it healeth without any ſcarre very quickly. Alſo *Mel Saponis* and all other medicines appropriate may be applyed upon paper at Sea, partly for ſparing Linnen.

Of the knowledge of weights and meaſures.

Moreover, I find a great weakeneſſe in younger Surgeons, that I have juſt occaſion to queſtion, in that their Maſters that breed them have not taught them the true knowledge of our uſuall weights and meaſures, but chiefly they faile in their weights, which doth bring great danger to their poore patients, whoſe lives hang dangerouſly in the balance by a graine too much given, where the Surgeon knoweth not how many graines are in a ſcruple, or in a dram, no nor ſcarce, that there is a weight ſo called: wherefore young Surgeons note as followeth. The Phyſitians, Surgeons and Apothecaries have two ſorts of weights in uſe, namely Troy-weights, which likewiſe are the Gold-ſmiths weights, and that containeth twelve ounces to the pound, and *Havoir-du-pois* weights, which containeth 16 ounces to the pound, and is that common weight which the Groſſers and all orher Tradeſ-men uſe, and indeed which we moſt uſe, for though my ſelfe ſometimes buy Musks, Civet, or Amber-greece, and other ſorts of Drugs, by Troy-weight, yet I diſpence and adminiſter all by *Havoir-du-pois*, which is 16 ounces to the pound: ſo much I will onely for brevity ſake ſpeake thereof.

A pound of *Havoir-du-pois* weight hath 16 ounces, an ounce hath 8 Drams, a Dram hath three ſcruples, a ſcruple hath twenty graines, and by that accompt a dram hath two graines, and a full graine of Barley is a reaſonable Graine, and a pepper Corne or wheat Corne may bee uſed.

And our meaſures agreeing with our weights moſt uſuall are as followeth, a wine Gallon of water containeth 8 pound, a pottle 4 pound, a quart 2 pound, a pint 1 pound, and of ordinary ſallet oyles, 7 pound and a halfe is accounted a Gallon.

Of

Of Cataplaſmes.

OF all other neceſſaries in the *Surgeons Cheſt*, I confeſſe my deficiencie therein; for I ought to have had dryed hearbes of all ſorts fitting, ſome ſtore: but I pray you accept of my excuſe. For at the Edition of this *Extempore*, I had *Surgeons Cheſts* and parts of *Cheſts*, 60 at once to prepare, and had but ten dayes reſpit admitted me to make and to fit them all; and yet notwithſtanding, the ſaid *Cheſts* contained hearbes of diverſe ſorts, as alſo Beane and Barly-meale, Linſeed, Fenugreeke, Camomile flowers, Cumin ſeed, Fennell ſeed, and diverſe other things, that are helpes that way. But what ſhall I ſay? To ſome fooliſh contentious vainglorious perſons, my beſt things fall too ſhort for them; but to benevolent underſtanding Artiſts, they can make and finde many wayes and helpes of fitting things in a Ship, and not alwayes charge the *Surgeons Cheſt*. *Viz.* If my ſelfe were at Sea, and put to it, I would finde waſte crummes of Bisket, and I would boyle them in Ship-Beere, and with ſome fat of the Beefe Kettles, or of the Porke Kettle, I would make up a ſupperative Cataplaſme; and if it had not a fit conſiſtence or body, I would deale with the Steward for a little Meale, or take ſome of my owne ſtores; and according to my ſtore, enrich that with other helpes from the *Cheſt*: And if I need a diſcutient Cataplaſme, and the *Cheſt* had not to helpe me to my will, being put to it, I would, as I ſaid, make my ground of the Medicine to be of crummes of Bisket or of ſoft Bread decocted in Beere; adding, when it had well ſod, Vineger and Honey, a fit quantitie: theſe things, with other rationall additions, according to ſeverall occaſions, doe much comfort the weake patient, and alſo grace the Artiſt: *Nam fruſtra fit per plura quod fieri poteſt per pauciora.*

If a Surgeon be put to it.

And to put young Surgeons in mind, what other Supperative Medicines are in the *Surgeons Cheſt*, there are either Unguents, Oyles, or Emplaſtick Medicaments diverſe, which my time will not admit me to informe you of, though I confeſſe I ſhould adviſe young men in their neceſſities. But to be ſhort, they ſhall finde *Vnguent. Baſilicon* ſpread thicke and applyed to an Apoſtume, doth well helpe to ſupperate; and the better, if the griefe were firſt embrocated with ſome *Oleum Lilliorum*, *Lini*, or the like: and you ſhall finde, that *Arceus* Liniment is right good to ſupperate a tumor; and likewiſe *Empl. Meliloti*: and who knoweth not, that Ship-pitch and a little fat mixed ripeneth a tumor, duly applyed? or *Pix Græca*, with fat or Turpentine, and diverſe other the like good things may be found, where the diſcreet Surgeon is put to his ſhifts. But no more of that; for where as Bees may ſucke Honey, even there Spiders will convert a plaine ſtile into Poyſon and Gall.

Supperative Medicines.

Non omnibus dormio.

A ready defenſative powder to be applied, where Iuſt cauſe is for a defenſative, either for wounds with Gunſhot, or other Wounds, which I have made uſe of, and will impart the ſecret to young practitioners, and is as followeth.

R. *Terra ſigillat.*
Alumin.
Vitriol.
Tartar.
Ceruſ. ana 1 li.
Bol. Armen. 2 li.
Aquæ 1 li. *ff.*

Take a new earthen pot of almoſt a Gallon and a halfe, put the water into the pot, and thereunto put the Allum and the Copperas, then powder the Tartar, and put that in alſo, and then have ready the other ingrediences in powder, put them in by little and little, ſtirring them very well, untill all be incorporated, and without ſeething keepe the Medicine on the fire till it be hard, and if you cannot make it hard enough in that manner, ſo that being cold, it will powder, then put it into ſome dripping Pan, or the like, and into an oven, when the bread is drawne, and it will be hard, then being cold powder it, and keepe it to your uſe, for it will not decay, nor alter his Vertue in many yeeres.

And when you would uſe it for a defenſative, take of this powder, about halfe an ounce of *Poſca*, I meane water and Vinegar mixed, foure ounces, put the powder therein, which will almoſt melt, then dippe clouts therein, and apply them. This medicine with moderation uſed, is a true and excellent defenſative, and a very anodine.

Alſo it healeth all itchings, ſmartings, gaulings, or any *Eriſipelas* or other excoriations ſpeedily and ſafely, and dryeth it mightily, preventeth from accidents, either in great wounds, or fractures, and being in ſmall quantity uſed with faire water to ulcers, it cleanſeth them wel and healeth them.

And if you have whites of Egges, mixed with a *Poſca*, it were the better, or in fractures with yolkes and whites together it is very good, onely let the care of the Surgeon be, that he apply it in his true nature, namely as a defenſative in fit time, and touching the reſt of the uſes thereof, he may preſume he hath a very good Medicine, and ſo for this time I take my leave. *Vale in Chriſto Ieſu.*

A

A Deſcription of the Trafine, *and the neceſsary uſes thereof, eſpecially for Military occaſions for young Surgeons.*

HAving had ſufficient tryals of the facility and ſafe uſe of the *Trafine*, I have thought fit to commend it and the uſe thereof, for the future, to the younger Artiſts, upon ſome of their requeſts, not detracting ought from the worthineſſe, and due commendations of the Authoure of the *Trapan*, concerning that excellent invention, yet by way of addition to my former Edition, I thought fit here to deſcribe the *Trafine*, it being an Inſtrnment of my owne compoſing, which experience will ſhew, is more compendious and of more facility in the uſe thereof, for young practitioners in Surgery then is the *Trapan*, the which Inſtrument, although it may be ſaid to be a derivative or Epitomy of, or from the *Trapan*, yet well obſerved, it performeth as much as the *Trapan* in every degree and more, and for that it was ſo faſhioned, and firſt practiſed by my ſelfe, I thought fit to put the name of a *Trafine* upon it (*a tribus finibus*) from the three ends thereof, each being of ſeverall uſes, and being as it may appeare triangular or three cornered, each corner thereof performing the part it ſeemeth to undertake, ſo that it fully ſupplyeth & maketh good all the uſes of a *Trapan*, with the one end, and that with more facility as is ſaid, and ſafety then the *Trapan* doth; or can doe, and it ſupplyeth with the ſecond end all the uſes of a ſmooth Levatory, and ſupplyeth the neceſſity of a Jagged or toothed Levatory, with the third end, the ſaid Levatories being all neceſſary adjutors in helping to make and finiſh the *Trafine* or (*tres finis*) and who ſo ſhall pleaſe to make a judiciall experience thereof, not being prejudicated, will find that it far exceedeth the *Trapan* in all his uſes; in the compendious and ſafe performance of the workes, as well of the two Levatories as of a *Trapan* recited which the former can no way be ſaid to do.

Secondly, the *Trapan* cannot be well managed without both the hands of the Artiſt, *viz.* the one for the worke of eroſion by the Artificiall motion thereof in turning it ever round for the better penetrating of the *Cranium*, the other hand muſt be uſed to keepe it ſteddy upon the affected part, and yet the upper part of the Inſtrument, muſt nevertheleſſe, as of neceſſity reſt upon the Surgeons breſt, yea & the Surgeon muſt for that purpoſe order his body in a fit poſture, and further yet, the Surgeon muſt have a ſecond man for an aſſiſtant of neceſſity, that muſt be imployed to ſtay the patients head, whereas

with

with this Inſtrument (I meane the *Trafine*) the whole worke is performed by the two hands of the Surgeon onely, and with farre more dexterity and quicker, then with the *Trapan* as is ſaid, yea, and that with much more comfort, both to the patient and to the Artiſt, as the practice therewith will plainely ſhew: and againe, there is no ſuch danger attending that Inſtrument as doth the *Trapan*; for the heads of the *Trafine* are made all taper, to wit, wider above then beneath, and alſo cut both wayes, and cannot therefore eaſily be ſaid to offend the (*Dura Mater*) by an errour to be ſuggeſted, to happen in the uſe thereof, without ſtupid ignorance in the Artiſt.

Thirdly, the *Trapan* of old had ever the heads as wide above as beneath, which heads were many wayes both very dangerous and uncertaine, eſpecially when the Inſtrument, by turning round, had cleane pierced through the *Cranium*, and thereby after the ſame head had fully perforated the *Cranium* round, it was very apt on the ſuddaine to ſlip downe upon the (*Dura Mater*) by errour and improvidence of the Artiſt, either upon oblivion or omiſſion divers wayes, as namely for one, if the Artiſt did not truely, equally, and ſtrongly faſten the ſmall ſcrew, being an iron or rather a ſteele pin, that ſtayeth and faſtneth the ſaid head of the *Trapan*, which the Artiſt pierceth with for the gaging thereof, either by haſt, which though otherwiſe he might be adjudged a carefull Surgeon, yet upon his eager proceeding on his worke, might unhappily be omitted, and even that ſmall errour might cauſe danger to the life of the patient, and ſometimes proved the irrecoverable cauſe of his death, whereas this Inſtrument, the *Trafine*, hath all the heads thereof made taper, as is ſaid, namely, wider above then below, piercing every way alike, and therefore there needeth no rule or gager, eſpecially in the being performed without turning it round about, but is done by the onely moving or agitating of the hand to and fro, yea, with the onely mooving of the wriſt of the hand, and which is another manifeſt benefit thereof, it can goe no lower then it is, by agitating and extreame preſſing urged, and when it hath penetrated through it, for the moſt part deteineth and bringeth forth the peece of the bone with it, and putteth the patient to no paine nor danger thereby, no, nor colour of danger or paine at all.

Fourthly, by reaſon that the *Trafines* taper heads are made and framed, to cut every way alike, as is ſaid, the worke is eaſier and ſooner performed therewith, then with the *Trapan*, as by the proving it upon a Calves head you eaſily ſhall make the experience, provided as is fitting in the time of piercing, you ſometimes take out the Inſtrument, and wipe the teeth thereof that it furre not too much, and thereby hinder the due penetration: alſo thereby you eaſily may conſider how farre you have penetrated, and what remaineth unpierced, that you may doe what is juſt in the worke of penetration, and no more.

Yet I will never deny, but doe acknowledge, that the *Trapan* hath deſerved great praiſes from former ages, for that it hath beene an Inſtrument

ſtrument that hath preſerved many a man, woman and childs life, from the eminent danger of death, and whereby they have beene reſtored to good and perfect health againe, and if that any by omiſſion or errour in the uſe thereof have dyed, they are irrecoverable; and if the younger Artiſt doe by his experience, find that this my addition deſerve ought, let God have the prayſe in his mercies to weake men, for the comfort they find thereby in their wofull diſtreſſes, and as for this my Addition of invention, I muſt confeſſe is not much, onely good will, for all men may well conceive, that it is more eaſie to adde to another mans invention, then to invent a new thing of his owne.

The next obſervation conſiderable in the fitting of the *Trafine* duely to the worke is, for the regulating the center or point of this orbe or circumference, I meane of this *Trafine* head, it is firſt to be well conſidered, that the pin thereunto belonging being placed truly in the center be artificially made of good ſteele, and that it be triangular, alſo that it be ſharp each way well pointed, and ſtand faſt in the Inſtrument, and alſo that it ſtand no lower, but alwayes ſomewhat higher then the circumferent teeth of the head of that Inſtrument doe, for becauſe the ſaid pinne in the center guideth the circumferent tooth-head-ſaw, to the beginning of the worke, and in the agitating and mooving of the *Trafine* with the hand to and fro in this worke, the ſaid pinne may firſt take hold, ere the teeth of the Inſtrument touch the ſcull, for that the ſaid pinne is not onely appointed as a rule and guide, but alſo as the ſtay to the worke, which done, namely, when the tooth-hed orbe or ſaw, hath taken hold round, then the ſooner the better the Artiſt is to take up the Inſtrument, to wipe and cleanſe the teeth thereof, and draw out the ſaid pinne in the center, the which he may no wayes omit, which done hee is by the agitation of his hand onely to & fro to pierce, and having pierced as it were halfe through, hee is againe to take up his Inſtrument and cleanſe it, and then againe to proceed in piercing by the motion of the hand to and fro, untill hee have in all parts gon through the *Cranium*, which if he diligently regard in the tender obſervant motion of his owne hands, I meane he that pierceth ſhall ſenſibly feele when the bone is penetrated through on each part, which conſidered, then drawing off his Inſtrument, hee ſhall find the peece of the *Cranium* ſo remooved, fixed within the head of his Inſtrument as is ſaid.

But note neverthleſſe, there is great care to be taken by the Artiſt in the manner of the piercing and taking out the peece of the fractured bone diverſe wayes.

And firſt, let him be ſure ever to place the broding head of the Inſtrument that pierceth, ſo that the triangular pinne in the center thereof be ſet upon a firme part of the *Cranium* or ſcull, yet alwayes provided it be neare the fractured part thereof as may be.

Secondly the Artiſt is to conſider, that as he which pierceth the *Cranium* with a ſmall ſtreight head, ſuch as the *Trapans* were accuſtomed to have as is ſaid by the giving way of the ſmall ſcrew that faſtneth

neth the head of the *Trapan*, the patients life may be indangered, namely if the *Cranium* being thorowly pierced, the Instrument casually should slip downe upon the (*Dura mater*,) as my selfe to my griefe once saw, even in like manner he that useth a ragged taper-head of a *Trafine*, how safe soever, may be guilty of indangering his patient, if he be not carefull in the manner of his piercing, namely, that after the Instrument hath taken hold round with the teeth, if he either leave the pinne untaken out, the said pinne being longer then the teeth of the Instrument, hee may wound the Panicle (*Dura Mater*) before the peece intended to be taken out, be pierced through in each part, or that he doe not at the least twice or thrice in the time of his piercing the *Cranium*, take up & cleanse the teeth of the Instrument with a clout, thereby as it were to mistrust himselfe, as fearing whether it have in all parts pierced through or not, or how much or in which part he is wanting for feare of going too deepe, otherwise he may kill his patient ere he doth find or perceive hee is through, for a worke so seldome used, and the errours thereof being of so dangerous a consequent, the Artist, although otherwise discreet, by omission, oblivion, or other improvidence be wanting in some observation, highly worthy of regard, wherefore it behooveth him to suspect himselfe and be cautious, for that a man can never be too wary in such a businesse, for although the peece every way may be pierced & removed out of his place, yea, and conteined within the *Trafine* head, yea, and sticke in the same, yet the Artist may by his hand be mistaken, and thinke it not to be through, for that the Instrument sticketh as firmely, and as fast in the place, when the peece is out and within the orbe of the *Trafine*, as it did ere it was divided, and as if it had not gone through: hereby if the Artist observe not his intermissions, by forbearing now and then his piercing, as is said, and sometimes view his worke, and cleanse the teeth of the Instrument ere it be through, he is subject to goe too deepe, and wound the (*Dura Mater*) by the continued motion of his hand, notwithstanding the peece of the *Cranium* is compleatly remooved, and resteth within the head of the said Instrument: wherefore all these observations as I conceive, under favour, are but necessary for the young Artist to have, in regard, *Nam nimis cautela non nocet*: To be exceeding wary is not hurtfull.

And further, let the Artist be sure that his *Trafine* be truely made of good steele, I meane the head of the pinne or center, and the ends of the levatories, and that the pinne stand fast on, and directly in the middest of the head thereof, namely in the true center of the Instrument, and also that the Artist have three heads of severall sizes in readinesse by him is likewise very fitting, with also an Instrument called a *Lenticular* at hand, to cleanse away all small shivers and raspings of bones, justly proceeding in the operation of excision, as also for the remooving whatsoever else may seeme by consequence to offend the *Dura Mater*, or that way else might hinder healing.

And

And further, I adviſe that every young Artiſt take ſome convenient time before hand, to make tryall of his *Traſine*, as is ſaid, upon a Calves-head, or the like ſubject, before he put it in practice upon a man, for a good Surgeon may erre, even in a ſmall omiſſion in ſuch a buſineſſe to his griefe and reproach, if hee be not exceeding cautious; and for that cauſe I adviſe every young Surgeon (as is ſaid) to ſuſpect himſelfe, and warily to conſider that the precious life of man ſo dependeth upon the care, wiſedome, and artificiall skill of the Surgeon in his worke, as that upon a ſmall omiſſion or errour of forgetfulneſſe, or but a very little miſtake, a man is in a moment ſlaine by art, for want of art, when it will be too late for the Artiſt within himſelf, to ruminate of the things that moſt conduced to the miſchiefe, and upon all occaſions, or omiſſions whatſoever befalling the Artiſt, let him ever be fearefull and carefull of entring too deepe, for feare of wounding, or but ſcratching of the (*Dura Mater*) for thoſe tranſgreſſions often produce fearefull accidents and deadly.

Againe, as in ſpeaking elſe-where of the uſe of the *Trapan* I have mentioned, let every Artiſt be very well adviſed and fully reſolved of the juſt neceſſity of the uſe of the *Trapan*, and ſo of this Inſtrument, before he attempt to uſe it, and not lightly upon ſuggeſtions or for vaine oſtentation ſake, nor above all, for baſe lucres ſake, to put his patient upon the uſe of either of them, for that it is apparent, many great concuſſions, depreſſions, yea and ſome fractures are cured without any ſuch Inſtrument; I have ſometimes alſo obſerved, that young Surgeons upon a raſhneſſe of their opinion, and now and then, for fooliſh vaine glory and oſtentation ſake, have beene overforward in that point, of putting themſelves upon the worke of piercing the *Cranium*, not attending the true time of nature, and by wayting to ſee what ſhe can or will performe of her ſelfe, as in truth he ought to doe, for that the Surgeon being natures hand-maid, not her guide, ought judiciouſly to attend her *Criſis*, and to proceed by the adviſes of antient grave Artiſts, that are experienced Surgeons in thoſe workes; for ſometimes there are dangerous ſymptomes that ceaſe, without the uſe of the *Trapan* or *Traſine*, by making of a wound, or by the only competent enlarging of the wound, in which work it is good to be very ſure in the making inciſion upon the head, that he doe well divide the *Pericranium* ſo farre as he intends to ſet his *Traſine*, at the leaſt whereſoever there is cauſe of enlarging or inciſing any wound of the head for the *Traſine*, or otherwiſe for the onely dividing that *Membrane*, is in many caſes ſufficient, and ſerveth in ſteed of the intended worke of piercing the *Cranium*: and further touching inciſion obſerve, that as too ſmall inciſion is not good, that the Surgeon ever have regard to preſerve the beauty of nature as much as may be; as ſuppoſe it were in any part of the face, to make too large an inciſion there, eſpecially when it falleth out to be neere the temporall muſcles, or on the forhead.

Now a word or two more, and an end of that buſineſſe, concer-

ning the *Trafine*, and I will conclude, there is yet a neceſſary Inſtrument, which of a kind of neceſſitie, ought to be at hand whenſoever the *Trafine* is put to worke, for that there may be unexpectedly uſe of it, and it is as formerly named a *Lenticular*, or a cleanſer, which immediatly after the eroding part of the *Trafine*, hath performed his fitting office and is remooved: this *Lenticular* or ſmoother, being a little warmed, is to be put into the wound, where the eroding part ſtood, and with a gentle ſenſible hand to be paſſed to and fro upon that moſt tender panicle, I meane the (*Dura Mater*) thereby to bring away any ſmall eroſions, ſcrapings, duſt, ſpills of bones, or what elſe-ſoever might be imagined, could give offence to that moſt ſenſible and noble Panicle.

This, with the premiſes well had in regard, I leave the young Artiſt to Gods bleſſing, and conclude this Chapter with a loving admonition to the younger ſort of my brethren, for their imitations; that like as our bleſſed Saviour ſaid to his Diſciples, in his ſpirituall Diſcipline to them, when he ſent them forth into the world, to preach the glad tidings of ſalvation, he admoniſhed them, and no doubt infuſed power ſufficient into them, to be wiſe as Serpents, and innocent or harmeleſſe as Doves, and withall, willed them to beware of men; and even the like premonition doe I give to my Brethren of the younger ſort, concerning the great truſt of the precious lives and limmes of men, referred to their skill, truſt, and care, and namely, that they with the utmoſt that in them is, and even as they would anſwere it before the living God, who ſeeth not as men ſee, that with innocent hearts, they without any ſiniſter ends, truely and faithfully performe their charge, in healing thoſe whom they take into cure, and charge, and that in the obedience, and in the feare of God, their innocence may appeare before God, and be witneſſed by their workes.

A

TREATISE,
FAITHFULLY AND PLAINELY DECLARING

the way of preventing, preſerving from, and curing of that moſt fearefull and contagious Diſeaſe called the PLAGUE.

With the PESTILENTIALL FEAVER, and other the fearefull Symptomes and accidents incident thereunto.

According to the long practice and experience of IOHN WOODALL, Maſter in SURGERY,

Surgeon of his MAIESTIES Hoſpitall of S^t *Bartholomewes*, and Surgeon Generall to the *East-India* Company:

But under benedicite *(namely) as imploring and aſcribing all the* Honour and Praiſe unto GOD alone, for his favour and mercyes, touching the ſalubriate effects thereof.

Chirurgi peperere manus, Iovis acta ſalubres,
ex cujus pendet noſtra favore ſalus:
Sin Deus auxilio morbis languentibus abſit,
fruſtratur medicus, deficit artis opus.

LONDON,
Printed by *E. P.* for *Nicholas Bourne.* 1639.

THE PREFACE.

COurteous Reader, *Such is Gods manifeſt miraculous hand in his various and unſearchable wayes of afflicting mankind in that moſt noyſome diſeaſe of the* Peſtilence, *that it is not onely wonderfull, but alſo impoſſible for the wit of any man, how wiſe or learned ſoever he may eſteeme himſelfe, or by others be eſteemed, to give a ſufficient reaſon, with alſo a generall and methodicall Cure for that moſt contagious, noyſome, and killing diſeaſe of the* Peſtilence, *for that it is apparent it paſſeth mans wit to comprehend or to avoid the moſt ſubtile invaſions and aſſaults thereof, as having in it* (aliquid divinum) *to be conſidered of, it being one of the three great and terrible Arrowes of the Almightie, whereby according to his Divine will hee hath uſually cut off ſinners from of the Earth almoſt in all Ages, and in all Nations, as we may gather, and is at large read in holy Scriptures, and in the writings of good men, and dayly experience declares no leſſe; all which, for brevitie, I will omit here to repeat.*

And his moſt uſuall great and fearefull Arrowes declared, are Warres, Famine, *and* Peſtilence; *and the moſt merciſull of theſe three, which the Prophet* David *choſe, was the* Peſtilence: *which, although his mightie, fearefull, and terrible hand be in it; yet for as much as his mercie is exceeding great, yea, over all his workes, and that he hath not forbidden, but given us leave, with underſtanding, and ſome judgement, to make uſe of all lawfull meanes to preſerve our fraile bodies in health by all our beſt endevour, ſo long as we truſt chiefely on his mercie, in the uſe of the meanes.*

In regard whereof, I weighing with my ſelfe how juſt and needfull a thing it is at all times, but chiefely in contagious times, for all men, eſpecially for men of my calling, to ſhew their endevours for the helpe not onely of themſelves, but alſo of their Chriſtian Brethren, as well by directions as by preſervative and curative Medicines; I eſteemed it not amiſſe, by this following weake Treatiſe, to ſhew forth the fruits of my many yeeres experience, touching the generall knowledge of this diſeaſe, as alſo the beſt meanes I had experienced both for the preventing and curing of the ſame, when and where occaſion may be offered, either Domeſtick, Marine, or Militarie. And firſt, as by the way, take it into your conſideration, that this diſeaſe holdeth not one certaine rule, figure, nor order in ſeizing on mans body, no, nor in one and the ſame houſe or family; neither are men generally taken ſick alike, no, nor directly, as in other times of the Plague *they have beene, but each time of Contagion hath different aſſaults and difference in the ſymptomes. For in* Anno 1625, *we had many ſignes contrarie to the* Plagues *in other times; yea, and many did dye dayly, without any ſignes or markes on their bodies at all: and alſo ſometimes,*

as

as is too manifeſt, the Plague *beginneth in Winter, and that as well with us as with our neighbour Nations, as namely,* Germanie, France, *the* Low-Countries, *and other parts of the world it hath done: whereas, for the moſt part, heretofore the* Plague *with us hath begun in Summer, and was commonly moſt fierce, predominate, and untractable to Medicines in the heat of Summer, and chiefely in Harveſt, which is the unſeaſonable time that wee doe uſually call the Canicular or Dog-dayes.*

But the ſickneſſe of the yeere 1636, held not that rule, but encreaſed in ſome Townes in Winter: wherefore ſince it is evident, that the Almightie hath the ordering thereof, and calleth us unto him, as is ſaid, by extraordinarie formes, when, where, and how he pleaſeth;

Let us with unfained humilitie of heart proſtrate our ſelves with true repentance and heartie prayers, ſhewing lively fruits thereof in a Chriſtian converſation; and then, without all queſtion, his Rod will be taken away from us and our Land. And alſo I adviſe all ſuch as it may or ſhall concerne, to repaire unto ſuch good meanes and learned Counſell as at the inſtant may be had, for the preſerving of their lives, and for the curing this fearefull diſeaſe, and that without dangerous preſumption, by delayes, over-much timorouſneſſe, or fearing, for in both theſe extremities we offend God and our neighbours.

And know, that all fleſh is ſubject to this diſeaſe, for it ſpareth no age, ſex, nor degree of mankind whatſoever.

And amongſt many evils, this one great miſerie attends it, and is incident to the vulgar people ſick of this diſeaſe, that when the diſeaſe reigneth, the Learned and moſt skilfull men, together with the beſt Divines and moſt able men of eſtate, which with their reliefe ſhould comfort and adminiſter unto them both ſpirituall and bodily comforts, as alſo many of their moſt neere and chiefeſt friends, are wanting and fled, and in their places ſpring up unworthy, unskilfull, impudent, yea, and vagrant wretches, as I may terme ſome of them, that in ſuch times uſually take upon them impudently the charge of many good mens lives; who alſo then are incident to be committed to the hands of wicked and unskilfull Nurſes, and I had almoſt ſaid mercileſſe Keepers, which make their caſes yet more lamentable: of which, my ſelfe have had full experience, when I had the diſeaſe.

And for as much as in thoſe times very many of the chiefeſt Traders of our Citizens of London, *as alſo of other remote parts of the Countrey, flye from the Citie, which commonly ſet the poore on worke, the caſe of the poorer ſort is made yet more miſerable: all which miſeries, with many more attending this noyſome diſeaſe, is no way to be diverted from mankind, but by the tender mercie of God: So that each man for himſelfe and his neighbour, eſpecially in ſuch times, is juſtly obliged to call unto God, and ſay,* Lord have mercy upon us:

And ſo in briefe, I conclude my Preface.

DE PESTE,
OR
THE PLAGVE.

And first what the Plague is.

THe Plague is a diſeaſe venemous and contagious, loathſome, noyſome, fearefull, and hatefull to Mankind, yea, and deadly for the moſt part, being accompanyed with variety of grievous ſores, as Carbuncles, Botches, Blaynes, and alſo producing ſpots and diſcolourings of the skinne, by Antient Writers called *Peſtities*, and vulgarly with us, although unproperly, called Gods token, for that the peſtilentiall *Bubo* and Carbuncle are by farre more manifeſt ſignes of the Plague then the ſpots are, for that the like ſpots are ſeene in fevers, which cannot truly be called peſtilentiall. *The Definition of the Plague.*

The diſeaſe may fitly be called, (*Flagellum Dei pro peccatis mundi,*) The rod of God for the ſinnes of the world; and even the word Plague, if derived from the Latine word *Plaga*, which is a wound, a ſtripe, a ſtroake or a hurt, is a juſt definition of this horrid diſeaſe, for who ſo hath this diſeaſe, hee is wounded, hee is plagued, hee is ſtrucken, yea, and that by the Almighty. In briefe, it is a killing diſeaſe, fearefull to Mankind, for that at unwares, it ſeaſeth upon, invadeth and poſſeſſeth mans body, as well ſleeping as waking, and being once entred in, it produceth diverſe fearefull and deadly accidents, and that with great celerity: ſo as *Theophraſtus Paracelſus*, amongſt others a learned Writer, deſcribing this diſeaſe, calleth it (*Baſiliſcus elementorum*) alluding it to that (*Baſiliſcus Olymphi*) who as the Latine Maxime hath it; *Solo viſu interficit hominem*, onely by his ſight killeth mankind, but, ſaith he, with a limitation, as not ſimply done, *Actualiter per ſe, & per ſpeciem viſibilem*, not by the act it ſelfe, and *The Plague compared to a Baſiliske.*

and visible species of the creature, but by reason of the aqueous and humid substance thereof.

Moreover, the body of the Creature, being as the Author affirmeth very porous and hollow; there are sent out of it such vapours, as infect the ayre, which infected ayre, so soone as it is drawne into mans body, it doth immediately kill him; in like manner, this Monster in mankind, the *Plague*, killeth those whom it breatheth upon, so that no man can account himselfe safe, the disease proceeding from the influence of the Heavens, as many of the most learned Writers testifie it doth, so that by their great distemperatures, the ayre being poysoned and infected, which we are enforced to receive into the secret closets of our bodyes, which undoubtedly hath its originall, *De Præscientia Dei.*

What safety have we then, or what can be a more fearefull enemy to mankind then Pestilentiall Vapours, which seaze upon mankind as a a Thiefe, and invade him at unawares, which lurke in every corner of the house, yea in his most secret chambers, threatning to take away his life when he least mistrusts, yea when he is in his quiet sleepe, as is said? such is this horrid disease, from the which God of his infinite Mercy deliver us and our land.

Of the parts of Mans body, that this Disease chiefly invadeth.

Of the parts of man most subject to infection.

The parts of the body of man that this Disease chiefly delighteth to invade or seaze upon, are the three principall and most noble parts of man, viz. the Animal, vital and the naturall faculties which have their severall seates in the braine, the heart, and the liver, upon one or all these principall parts, this infection useth to take hold, and being once entred therein, as it were in a moment of time, it surprises, subjugateth, captivateth, yea and triumpheth over the whole body of man, and over all the faculties thereof, to his utter ruine and destruction, if God bee not the more mercifull unto him in his preservation, and howsoever, as it is said, that the disease chiefly doth seaze upon the three principall parts of mans body aforenamed, yet having first so done, it feareth not to shew his subtill fury all over the body, and sets its marke every where, without order or controule.

Three parts especially.

Whether the Plague may bee called a Feaver or not.

The Plague a Feaver.

There hath bin much dispute amongst ancient writers, whether the Plague bee a Feaver or no, by reason of the subtility and unequality thereof, but for what I can gather by my experience, I am out of doubt, that he which hath the Plague is not without a Feaver, neither is hee ever freed from the danger of that Feaver, untill one, or more then one *Crysis* happen, for untill either Botch, Carbuncle, Blayne or Spots, called *pestities*, doe manifest themselves, no just indication can be had what will become of the patient, but that he is alwayes in expectation of Death, the distemper continuing.

But

But if upon the production of any the former Symptomes, a digeſtion in nature follow (as is ſaid) namely the Feaver ceaſe, the ſicke perſon take moderate reſt, a Botch come to good ſuppuration, a Carbuncle to ſeparation, or a Blayne to yeeld his uſuall indigeſted quiture, with mitigation of the dolour, or that the Blaynes drying and withering by Gods mercy, through cordiall Diaphoreticks or the like, that a chearefulneſſe in the ſicke appeare, or but ſome one of theſe good ſignes ſhewing it ſelfe in a favourable manner, there is great hope, and the feare is almoſt paſt. *Symptomes of recovery.*

And yet let no man ſo much flatter himſelfe, in his owne conceit, in the time of contagion, when hee perceiveth the ayre to be manifeſtly infected, the diſeaſe being popular, as to thinke with himſelfe that becauſe the Diſeaſe perhaps at the firſt, beginneth ſlowly, and the diſtemper yet dull and not much outwardly apparent upon the patient, that he hath no feaver nor danger, and that hee may take time till the next day to conſider whether he will uſe remedies or no, let no wiſe man ſo preſume, for I have ſeene very many ſtrucken even at the heart, when the diſeaſe could not be adjudged dangerous, neither by the pulſe, urine, nor any other certaine indication, ſave onely by the complaint of the patient, who under favour in that diſeaſe, is not alwayes ſenſible of his owne danger; and againe, how many have at the very firſt, an apparent fierce Feaver, which can no way be removed, but by ſome of the former wayes of digeſtion, or by Death, whereby it is manifeſt, the Plague is never without a Feaver, and ſo all men will adjudge it, that either have had it, or that have followed the cure thereof in others.

Of the ſupernaturall cauſes of this Diſeaſe.

The materiall cauſes thereof, as is already declared, are in part, and in the prime place eſteemed to be our ſinnes, which draw Gods wrath upon us, as witneſſes the Prophet *Amos*, where he ſaith, *Shall there bee evill in a City, and the Lord hath not done it? &c.* Whereby we may juſtly gather, that when the Almighty will ſhew himſelfe in his fury, againſt duſt and aſhes, he can put the Hoaſt of Heaven in his order to fight againſt us, in which caſe we have no way to eſcape his judgement, but by Prayer, or unfained Repentance, and as for all other naturall, or efficient cauſes, they have as their ſubordinated dependances and effects from the former, and are conſtellated, put on, and put off by Divine Providence, viz. *ex Præſcientia Dei*, by the fore-knowledge of God. *The firſt cauſe ſin.*

Nam aſtra regunt homines, regit & aſtra Deus.

As the Poets ſay; and the very Heathens conclude no leſſe, that the ſtarres governe mans body, and God governes the ſtarres; and alſo experience tels us, that when any of the foure ſeaſons of the yeere prove unnaturall, mens bodies accordingly become unnaturall, as ſometimes by peſtilentiall diſeaſes: wherefore to multiply words further of

the primitive causes of this disease, were but to detract good time, and the truth thereof is manifest to all men, in that this furious disease as it were disdaines any generall Method or order of cure, after mans intention as it is said, when it is in his Rage.

Quicquid facimus mortale genus,
Quicquid patimur, venit ab alto.

Which may be thus Englished.

That whatsoever man doth, or whatsoever man suffereth, all proceedeth from above.

Of the naturall causes of the Plague, by the judgement of the most ancient and moderne Writers.

The causes of the Plague.

The terrestrial causes thereof, are by common consent of most writers, as followeth: Venemous and stincking vapours arising from Fens, standing ponds or pooles, Ditches, Lakes, Dunghils, Sinckes, Channels, Vaults or the like, as also uncleane slaughter-houses of Beasts, dead carkasses of men, as in time of Warre, and of stincking fish, fowle, or any thing that hath conteined life, and is putrid, as also more particularly in great Cities, as in *London*, the uncleane keeping of houses, Lanes, Allies, and streetes, from those recited and the like infectious venemous vapours, by warmth of the Sun exhaled, are apt and able to infect the living bodies of men, and thereby to produce the Plague, which once produced, is too apt by infection to spread it selfe, and become popular, as experience too much sheweth: and as by corrupt meats and drinkes, mens bodies are corrupted and infected, even so by corrupt ayre (as I have said) which we can no way avoid, to draw into the secretest parts of our bodies; the spirits are likewise infected and poysoned, to the production both of sickenesse and death (if God be not the more mercifull unto us) for where the disease once beginneth, there are many unhappy evils incident, as causes conducing to the encrease thereof; besides Vapours, and one not of the least is, it bringeth scarcity of food with it, and that brings emptinesse of the belly, and where emptinesse is, there evill aire is not wanting, and that aboundeth too much with the poorer sort; and also where food is wanting, all kindes of food, how infectious or pernitious soever, is used in necessity, namely all rawe fruits, as plums, peaches, yea musty Corne, and many things of farre wilder condition, and so by consequent, lack of food, is a great cause of the encrease of the Plague, so that in the sickenesse time, it is by experience daily found, that farre more of the poorer sort usually have dyed, then of the richer; for where emptinesse and unwholsome food is in use, as is repeated, there the corrupt ayre doth the most harme.

The corruption of the Aire, a cause.

Want of food a cause.

Unwholsome food a cause.

And likewise generally observe, that where warre is for the most part, there is famine, and those two conclude to make up a third evill, name-

ly

ly the peſtilence, which God be praiſed we have bin long freed from the two firſt. Thus much in briefe of the Terreſtriall cauſes of the Plague.

Of the precedent and accidentall ſignes of the Plague.

The precedent and accidentall ſignes notable in the Diſeaſe of the Plague, are various and uncertaine, becauſe in truth they are ſeldome in any one perſon as in another, but to ſpeake, as of the moſt generall firſt appearance of the Plague, it beginneth cold, and with paine in the head, and ſtomach, and ſometimes in the backe, and if ſo, then it is commonly taken for an Ague, and therefore at firſt little feared.

Againe ſome beginne to complaine of paine in the backe, and ſuch kindes of beginning, are more generally hopefull of healing then, when it beginneth hot (in my opinion) in ſome alſo it beginneth hot, with paine and giddineſſe of the head, and paine in the ſtomach: others at the firſt ſtroake or touch, finde a generall diſcouragement and weakeneſſe over all their whole body, others at the firſt being taken in the head, their ſences are ſtupified and dulled: in others it beginneth with a raging and fierce feavour, ſo that their countenance is changed, their ſpeech fayling, or fainting, their eyes ſtrangely turning to and fro, in a fearefull manner.

Againe others complaine of an extraordinary paine, with extreame heat inward in the ſtomach and intrals, when the outward parts are chil and cold, and ready to ſhake: againe ſome in the beginning complain of great thirſt; others complaine of ſhortneſſe of breath, and paine in breathing; others ſwelling and ſoreneſſe of their throats which being ſought into, no cauſe appeareth: Others have the Almonds or Glandul's of their throat much ſwelled and inflamed.

Alſo many are taken with great deſire to ſleepe, and with frequent yawnings, and it is unſafe, in my judgement, to permit ſuch to ſleepe before a Diaphoreticke or ſweating Medicine have by the patient bin taken, and that it hath breathed out ſome of the venemous vapours by ſweat, with keeping them waking, till the medicine have wrought his effect.

Others are ſubject to great watchfulneſſe, and commonly thoſe are in their ſlumbers oppreſſed with grievous and fearefull dreames and fantaſies. Others it beginneth with ſweatings, with paine of the back, and a ſtinking of the breath, and ſuch are ever of very doubtfull cure, and in my opinion ſuch have inward Carbuncles. Others have ſwellings in the breaſt, ſome alſo have loſſe of appetite, evill digeſtion, and faintneſſe, and ſome are troubled with deepe hickcoks and hollow belchings.

Others from the beginning to the end of their ſickneſſe, and till death, have neither ſwelling ſores nor ſpots: alſo upon ſome at firſt there appeare diverſe ſpots of a duskiſh colour, their countenance of an unequall aſpect, the one cheeke red, the other pale: Others with ſweat drops on their noſes, a fierce countenance with grinding of the teeth.

No ſymptome of any diſeaſe, but is incident to the infected of the Plague.

And to be brieſe, touching ſignes and accidents in this moſt fearefull diſeaſe, I perſwade my ſelfe, that no man can ſpeake of any terrible ſymptome, ſigne, or indication of any diſeaſe whatſoever, that hath befallen any man, but that the like hath beene ſeene and obſerved in ſome one perſon, or more, ſick of the Plague: for the fierceneſſe thereof in ſome perſons, forceth *Hemorrhage* both from the greater and leſſer veines; and ſome it afflicteth with a *Diſſenteria*, *Diarrhæa*, *Lienteria*, all theſe from the belly; and from the head, it produceth *Apoplexia*, *Paralyſis*, *Lythergi*, *Vertigo*, *Mania*, with diverſe other ſymptomes alſo from the throat, *Squinancia*, *Angina*, &c. Alſo obſtructions of the Bowels, retention of Urine, *Colica* and *Iliaca Paſſio*, *Singultus* *Gangrena*, Convulſions, Contractions of Nerves, and what not, this fierce diſeaſe produceth to devoure poore mankinde by: and ſurely, for that cauſe I am perſwaded it is vulgarly called the Sickneſſe, as comprehending and including all other ſickneſſe in it ſelfe.

Accidentall ſignes, which in this diſeaſe commonly preſage death to the partie, are theſe that follow.

Signes that preſage death.

Namely, when the Patient is poſſeſſed with ſounding and faintings, with cold and clammie ſweats, often changing of the countenance, vomiting of ſlymie, ſharpe, and ill-coloured flegme, either greeniſh, yellowiſh, blackiſh, or bloud-coloured ſanies, or avoiding of Excrements diſordered, and diſcoloured, either fattie, blackiſh, unctious, or unnaturally ſtinking; Convulſions, Contractions of the Nerves, graveling and pidling with the fingers, plucking up the Bedclothes; a ſudden flux of the belly of ſtinking matter, of ruſtie or greeniſh colour; a ſudden going back of an Apoſtume, Carbuncle, or *Bubo*; alſo when the Patient is inſenſible of the departure of his Urine, and Excrements.

And yet to Gods glory I here affirme, that notwithſtanding the aforeſaid ſignes, or ſome one of them, I have ſeene, I ſay, ſome one or more of the afore-named ſymptomes appeare, and that the ſicke hath even in mans judgement beene as at the point of death; and yet nevertheleſſe, by breathing of a Veine, or giving of a good *Diaphoretick* Cordiall, the partie hath beene recovered, and lived. Wherefore I would adviſe the diſcreet Surgeon, that dare adventure his perſon in ſuch caſes, not to leave doing of good to his Patient by all rationall adminiſtrations and applications, ſo long as life appeareth.

The convenience of the Cure.

And one comfort is to the Patient and Surgeon in this diſeaſe before and beyond all others, that having once overcome the Feaver, ſo that the bleſſing of health but appeareth, by appetite and competent reſt, or the like chearefull ſignes; no Sores heale faſter then Peſtilentiall Sores doe. And yet *per contra*, I have alſo had too much experience in the curing of the diſeaſed of the Plague, that it is generally the ungratefulleſt recompenced of all other diſeaſes,

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Let him not be anothers, that can be his owne.

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Quia nos non nobis nati ſumus;

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For to this end every Artiſt, yea, and every Chriſtian man is ordained, and alſo commanded by the holy Apoſtle S. *Paul*, in theſe words, to *doe good, and diſtribute*; Forget not, *for with ſuch ſacrifice the Lord is well pleaſed*: and S. *Iames* ſaith, that it is *true Religion, to viſit the Fatherleſſe and Widow in their adverſities*, &c. And even the excellencie of the Calling of Surgeons ſhould incite them to zeale where they can, as well without reward as for reward, where povertie is, and need requireth.

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Of the three chiefe and moſt principall outward ſignes or indications of this diſeaſe, vulgarly called the Plague: and of a fourth.

Three certaine ſignes of the Plague.

THere are onely but three moſt notable certaine externall ſignes of the Plague apparent to all, and thoſe faile not to teſtifie the truth of the diſeaſe: and by thoſe, each old Wife by her experience, may maintaine her report of the diſeaſe, as amply and well as the skilfulleſt Doctor, in times of contagion; and they are as followeth.

Of the firſt outward ſigne of the Plague.

The firſt ſigne Bubo.

IMprimis, the *Bubo Peſtilentialis*; which, as I may ever juſtly affirme of mine owne experience, was to me the happie Botch, ſent upon my owne body by Gods mercie, and was the ſparing of my life; for I had it twice, namely, at two ſeverall Plague-times, in my Groyne.

The firſt place where the Plague ſhewes it ſelfe.

Theſe *Buboes*, Boyles, or Peſtilentiall Botches commonly happen in the Emunctories, ſincks, or cleanſing parts of the body, as the Artiſt tearmes them, and ſeldome elſewhere (if they be peſtilentiall) namely, they come in the glandulous parts, under or behind the eare, if the Braine be oppreſſed, which is the place by which the Braine, if Nature be able, driveth out and diſchargeth her ſelfe of the Venome or poyſoned Infection, which otherwiſe would kill the animall ſpirits, and by that, the whole body alſo.

The Braine.

The ſecond place

The Heart.

Or it commeth *ſub axillis*, under the arme-holes, as it is uſually called, where alſo are certaine ſmall Glandules, or Kernels; and to that part the heart ſendeth out the venemous vapours, or offending matter, either by force of Nature, or Art, which ſuddenly groweth there to an Impoſtume, Botch, or Boyle.

The third place

The Liver.

The third and laſt place, where commonly a Peſtilentiall *Bubo* commeth, is in the Groine, which the Artiſts calleth *Inguen*; where, when the Liver is oppreſſed, and Nature ſtrong, ſhee ſendeth forth the diſeaſe or Botch thither; and that is the third part where the Botch appeareth: And, as by the way, to the Artiſts of the younger ſort a word or two of my practicall obſervations, by way of diſtinguiſhing the difference betwixt the Veneriall and Peſtilentiall *Bubo*; wherein a young Artiſt may be miſtaken, to his prejudice.

Wherefore,

Wherfore let the Artiſt obſerve, as common practice ſheweth, that the Veneriall *Bubo*, although it ever appear in the Groyn, it is ſlower in his progreſſe then the Peſtilentiall Bubo is, for the Peſtilential commeth for the moſt part with a Feaver: and although the Veneriall ſometimes in his augmentation in younger perſons hath a ſmall feaver for a day or two, when it is almoſt at ſtate, it being alwayes thwart upon the dependant part of the Belly, called *Imus venter*, or the lower belly, namely in *Inguin* upon or over *Os pubis*; But the Peſtilentiall Bubo or boyle commeth ever furiouſly on, and as in a rage of a Feaver, and as being in haſte, ſometimes it lighteth on or near *Inguen* thwart, but more often lower upon the thigh, pointing downeward with one end, the upper end towards the belly, being commonly the biggeſt or the fulleſt part of the Bubo, the whole thigh being alſo inflamed, which if it doth not hold, ever to come right in the place where the veneriall Botch doth as is ſaid, but as neere the Emunctories as it may, yet

How ſoever by the fury and uncertaine ſeat thereof, the peſtilential is ever to be knowne from the venereall, and the more certaine by his furious comming, or when the Plague raigneth, and it happeneth to children, which cannot be ſaid to be venereall, and yet nevertheleſſe, even in contagious times; A venerial *Bubo* is not to be forbidden by any Surgeon to happen, if his patient pleaſe to have it ſo.

But to conclude this point, the diſcreet Surgeon at the firſt ſight, the other forenamed circumſtances well weighed, may eaſily know to make a true diſtinction ſufficiently, if he be a man of judgement: and thus much of the firſt outward ſigne of the Plague, *viz.* The Bubo, Botch, or Peſtilential Boyle.

Of the ſecond outward ſigne of the PLAGVE.

THe ſecond outward ſigne in the Diſeaſe is, that moſt fierce burning Carbuncle called *Anthrax*, or the burning coale, which happeneth *hic & ubique*, namely in every part of mans body, without order, rule, or controule, within the body, as well as without, and at the firſt appearance thereof (if viſible) it doth appeare commonly inflamed and hard, and in the middeſt thereof, with a burning payne, afflicting the ſicke, like to burning fire, yea and will ſometimes bliſter, even with the ardent Fervour thereof, and in others it will itch very much, which if it bee ſcratched, there will come forth a ſharpe reddiſh yellowiſh, or ſometimes a dusky coloured *Ichor*. *The ſecond ſigne* Anthrax. *The effect of it.*

And to ſome again, the paine is ſo fierce and great, that the Patient will grow to be mad with extremity thereof. *The deſcription of it.*

The

The description of it. The ſhape or figure of this Diſeaſe is moſt commonly ſomewhat round, and the colour uncertaine, according to the predomination of the humour infected or infecting, for ſometimes it is pale, though the party be in a feavour, ſomerimes reddiſh, ſometimes blacke or purple, or greeniſh, and the two laſt colours are moſt fearefull, and this diſeaſe is ſeldome healed, without ſo much loſſe of the muſculous fleſh and skinne, as it taketh firſt hold of, in what part ſoever it happen, except by ſweating medicines in the beginning of the diſeaſe, the fury thereof be changed; but it is a very good ſigne of life when it ſeparateth it ſelfe ſo, that the Feaver ceaſe, for the Carbuncle commeth ſeldome or never to ſuppuration as doth the Bubo: But it will admit ſeparation, and come to a kind of unperfect digeſtion many times, and after will come to fall out as a gangrenated part doth, where Nature is ſtrong, and it uſually will ſeparate and come away in one entire piece from the ſound, but if it grow black and ſeparate not, nor any circular digeſtion be, and the Feaver abate not, then it may be feared Death is at hand, for little hope of recovery is in the Patient.

The danger of it. And againe if it appeare greeniſh, the Party commonly dyeth; alſo you ſhall ſee ſome Carbuncles ſmooth as glaſſe, and of a blacke ſhining colour, not unlike pitch, with intollerable paine, and the member whereon they are fixed, will be ponderous and unwildy to move to and fro, and ſeeming to the patient, as if it were heavily overburthened, or as though it ſuffered by hard ligature, and I have ſeen Patients that have had Carbuncles within the body, whereof one hath bin within the Stomach, and ſome have it in their Liver, and other principal parts, but ſuch live not many dayes. I have taken out the whole eye from one, by a Carbuncle ſeated therein, who recovered, and from another the halfe noſe, from another the halfe of the beard, with alſo the lippe whereon it grew, which of it ſelfe fell off by ſeparation, and from the third, one of his teſticles, I meane one of his ſtones, with the purſe and all, and that man was with the halfe of his Scrotum, living at the writing hereof, as in my other Treatiſe elſewhere is mentioned. Thus much of the ſecond principal ſigne or apparant Demonſtration of the PLAGUE, namely the Carbuncle.

Of the Blaine.

The third ſigne, a Peſtilentiall Blaine. THe third manifeſt and demonſtrative ſigne of this Diſeaſe is the Peſtilentiall Blaine, whereof ſome infected have many, and diverſe have not one: and this Diſeaſe is a painefull angry puſh, ſomewhat like the ſmall pock, but yet in colour more red or cloudy, ſeldome tranſparent, as a ſmall pock uſually is, but farre more painefull: ſome have them ſomewhat leſſe, ſome bigger, with a ſmall head, of an angry blew or reddiſh colour, ſometimes of a lead colour,

The deſcription of it.

and

and ſomewhat hard or fleſhy, and as it were growing upon a large roor, or ſtoole, this Diſeaſe is found in every part of the body, but this Blaine ſeldome killeth, or hindreth the cure of the diſeaſed, but it rather ſerves for a demonſtrative ſigne of the Diſeaſe, then otherwiſe, and helpeth to breathe out the venome, as I gather. For if by vertue from above, or of good Medicines, or by ſtrength of nature, the feavour be overcome, the Blaine dryeth away, and requireth no other cure: For as I conceive, it onely proceeds (*ex ebullitione Sanguinis Venenoſi*) of the ebullition or boyling of venemous blood, which being thruſt out, either by the immediate worke of God, or Art, or Nature, health eaſily followeth, and the blaines vaniſh, unleſſe by natures weakeneſſe, or through the undue uſe or want of Phleboromy or of purging medicines, or for want of following the cure, by Diaphoreticke medicaments in ſeaſon, the venome be repelled from the ſuperficies to the center, as too oft in the cure of that diſeaſe it happeneth, and in ſuch a caſe, eminent death is to be feared: And ſo I conclude of the third notable ſigne, the Blayne.

The cauſe of it.

Of the Markes or ſpots, commonly, though neither properly nor alwayes truely called, Gods *tokens.*

THe fourth apparent outward ſigne of the Plague, is the markes or ſpots appearing upon the skinne, uſually called Gods tokens, but not as being ever certaine tokens of the peſtilence, and ſo of death to the patient, as vulgarly they are taken to be, by ignorant people in their unexpert conjectures and opinions, for that it is daily manifeſt, many have ſpots of ſeverall formes and colours, when venomous feavours raigne, and yet have not the Plague: and againe many have ſuſpitious and fearefull ſpots, which the vulgar tearme Gods tokens, and recover and live many yeeres after; my ſelfe have cured not a few in that kind, that are now, to Gods glory, living; theſe ſpots are upon ſome bodies like Flea bitings, in others larger, in ſome againe as big as a penny.

The fourth ſigne, Gods tokens.

Of the ignorantly miſtaking them.

In ſome bodies there are very many, and ſometimes they are like freckles, and they are moſt commonly found upon the breaſt, and ſomtimes upon the backe, armes, and legges of the patients; they are in ſome of a colour blewiſh, or of a ſad red, and ſome are like lead colour, and others purple, ſome are of a pale-blew, and theſe ſpots are ever without paine: but the very appearance of any ſpots, to any in the Plague, cauſe ſudden feare to the Patient; which, though the markes be inſenſible, yet through ſudden feare, they produce faintings, ſwoundings, trembling of the heart, and death following thereupon, although neither the patient feele paine, as is ſaid, neither alwayes

Of the ſeverall colours.

Their effects cauſed by Feare.

wayes the Artiſt can judge, by reaſon hee ſeeth juſt cauſe of ſudden death to his patient, the reaſon being ſecret with God, as inwardly afflicting mankind, *de Præſcientia Dei*, namely of the fore-knowledge of God: ſo much of the markes, ſpots, or tokens, in ſome appearing, in the Diſeaſe of the Plague.

Certaine Caveats by way of advice, for the preventing of the ſickneſſe.

Flight an uncertaine remedie.

AMongſt which *Citò, Longè, Tardè*, Are by many good writers preſcribed and much inſiſted upon, as in the firſt place, and their meanings are, that people fly quickly, fly farre, and tarry long from the danger of the infected aire, where it raigneth. And I deny not but they are good rules; but even they, daily experience ſheweth, are alſo moſt uncertaine, *Quia Deus ubique eſt*, for our God is every where, and returneth ſome home (I will not ſay with a vengeance) neither can all men make uſe of thoſe rules, how good ſoever, neither is it fit that all men ſhould flee, for many reaſons too long to bee inſiſted upon.

And let him that flyeth, for the firſt, whereſoever hee lives, beware of provoking God, by ſurfeiting, either by fulneſſe of eating or drinking, even in the beſt aire, how good ſoever the Meat or Drinke be, for fulneſſe in contagious times menaceth danger.

Omne nimium vertitur in vitium.

Divers meats to be avoided.

Every fullneſſe is uneaſie for nature to digeſt, and therefore may prove vitious: Alſo, in contagious times let him beware of raw Fruits, of Oiſters, Muſcles, new Wines, or the like novelties, as Melons, Muske-Melons, but chiefely avoid the exceſſe of them.

Seaſonable times to be obſerved.

Alſo beware of being abroad too early or too late, in times of contagion, and obſerve a good cuſtome with your owne bodie: doe not ſuffer your body to be too coſtive, or over-much bound; neither is it ſafe, to keepe a mans body dayly in purging, no, nor in dayly looſeneſſe, for extreame looſeneſſe is not good, nor ſafe, in contagious times: neither bleed but by good advice (if it may be had) neither before nor after the time of the Sickneſſe, for that fearefull dangers enſue often by unadviſed bleeding or purging in contagious times; for thereby, in ſeeking to avoid danger, contagious and venemous vapours are often drawne from the ſuperficies, or outward parts of the body, to the Center; and namely, to the Liver, Heart, or Braine, or to one of them.

How to order the body in time of infection.

Alſo

Alſo if any purge or bleed by advice, let the blood be removed, and put away inſtantly, and likewiſe his cloſe-ſtoole have cold water therein, and not be kept in the roome, wherein the patient lodgeth, longer then neceſſity conſtraineth.

Beware alſo that no man that hath any Peſtilentiall tumour or riſing, be it Botch, Carbuncle, or Blaine, doe open a veyne without very ſound advice, nor purge, and if he doe want ſuch advice, then let the veine be opened on that ſide he moſt complaineth of, and not otherwiſe, as he tendereth the patients life: it is alſo good not to be thinne clad in contageous times, for that the ſickneſſe, with the moſt beginneth cold, neither to lye too cold in bed, ſweating is farre ſafer for any man in health, for preventing diſeaſes, then quakings.

Alſo beware of too violent exerciſes in ſuch times, for taking of ſudden cold, & beware of all provocations to the extremity of feare, care, anger, griefe, watching, extremity of *Venus* luſt, or extremity of heat or cold, and alſo of delaying of helpe in due time, which hath coſt many a man deare, as elſewhere hath bin certified.

Preſervatives for correcting the Aire in Houſes.

PReſervatives are put before curative Medicines in the Diſeaſe of the Plague, by moſt good Writers; the reaſon I take it, is as well concerning the ſicke, as alſo their friends and attendants, wherefore I hold it not amiſſe to begin with thoſe things which are fitteſt to preſerve from the infection, and one is as much as may bee to correct the evill diſpoſition of the ayre in houſes, as namely for one cheape remedy.

Receits of preſervatives, by purging the ayre.

Take Bayberries groſly beaten, and laid upon a hot fire ſhovell, and carried up and downe each roome of the houſe, is very good, and ſteeped alſo in wine Vinegar, being ſtrewed upon Embers in a chafingdiſh, and carryed to and fro in roomes: or take Franckinſence, or pitch, or tarre, or Rodion wood, or Cedar, or Iuniper, and doe in like manner, or any one of the aforeſaid, or the ſmall duſt or fragments of amber, ſo uſed, I meane the waſte of ſuch as is uſed for beads, and knife hafts, is very good againſt any infectious aire, and moſt particularly againſt the Plague, alſo Iuniper or the berries thereof, or bay leaves, Lavender, Sage, Roſemary, or any one of theſe dryed, and laid upon a hot fire ſhovell, and carryed to and fro in a Roome: Alſo let the houſes be kept cleane, where the ſick are, and no leſſe where the whole are, to preſerve them in health: Alſo wine Vinegar, wherein Roſes, Rue, Angelica or Wormewood, or one of them hath bin ſteeped, or wine Vinegar, with Roſe water therein, taken and ſprinckled upon a hot fire-

ſhovel, and carryed up and downe the roomes of the houſe, all theſe or any of them, are very profitable to correct the evill aire, and where it may be done, let the caſement or windowes of houſes, opening to the South or Weſt, but chiefly the South light be kept ſhut, or for the moſt part, and rather open the North and Eaſt lights, for they bring in the purer and ſafer ayre.

Other receits of Fumes.

Alſo for the wealthier ſort, to make a Fume of *Storax Labdanum, Maſtich, Beniamin, Cloves, Cinamon, Mirrhe*, or of *Lignum Aloes*, all, or any one or more of theſe together, are very good for thoſe that will goe to the price thereof, and are cordiall ſmels, and doe reſiſt putrifaction, and the evill diſpoſition of the Aire, and thereby prevent from the Plague.

A cheaper, and yet a very good Fume, to fume roomes in contagious times.

TAke ſmall coales dryed, and powthered, three ounces, *Storax, Calamint*, two ounces, *Beniamin*, one ounce, Cloves in powder halfe an ounce, rub or beat the Gums, and make the reſt into powther, and mix altogether, and with Gum water make it up like paſte, then divide it and make it up into ſmall, but long pieces, that will ſtand alone, and dry it, and when you will take occaſion to fume your houſes, kindle one of theſe pieces at the upper end, and it will burne of it ſelfe, and laſt neere one houre; and the compoſition will burne the better, if you adde thereto of ſmall coales in powther, one ounce.

Preſervatives for the fuming of apparell.

FOr fuming of apparell to them that are of meanes, and will goe to the price of it, there is no better Fume, then as is ſaid, the Fume of *Lignum Aloes, Cloves, Storax, Beniamin, Labdanum, Myrrhe, Maſtich, Cinamon, Amber*, or ſome one or more of theſe, for they are all good and very fitting, and correct the ayre well, and reſiſt venemous Vapours, and thereby they prevent the infection of the PLAGUE, alſo the Fume of the ſaw-duſt, or chips of Cedar-wood, which are in *London* to bee had, and are cheape and ſingular good for the fuming of roomes, or of apparell.

A good compoſition for fuming Bedding, Apparell, or the like, and the whole Houſe, if they pleaſe; and is not very deare.

TAke Bay-berries, Juniper-berries, of each ℥. 4. courſe Myrrhe and courſe Aloes, of each ℥. j. of the Turners chips, or ſhavings of *Lign. vitæ*, Juniper, or Cedar, and of white Saunders, of each ℥. j. ſe. Frankincenſe, Storax, Calamint, Tyme, *Labdanum*, of each ℥. ij. make all theſe into groſſe powder, and lay thereof upon the imbers, and fume with them.

A Caveat concerning fuming of Houſes, Chambers, or Garments, with Brimſtone.

THis one Caveat I deſire the Reader to take notice of, and to be warned, touching a groſſe Errour by many uſed in their Fumes for Houſes or Apparell, which I have often obſerved, namely, by the burning of Brimſtone to fume Houſes and Apparell with; which, in my opinion, as well they might preſcribe the fuming with Cinaber, Mercurie, Arſenick, Rialger, or Antimonie; for I am ſure, and can maintaine it, that the vapours are all venemous and deadly, the one as well as the other.

The fume of Brimſtone dangerous.

And I can ſpeake it of practiſe and proofe, that I my ſelfe have ſeene killed Cocks, Hennes, and diverſe other Birds and living creatures, as Bees, Gnats, Flyes, &c. with the onely ſmoake of Brimſtone; and upon good grounds, I will not let to ſhew any man the practiſe for his learning: and that it moſt artificially killeth Fleas, Flyes, Lice, Gnats, and Bees, I need not prove.

Wherefore beware of it, for the fume of Brimſtone is venemous and deadly, I know it; and that it is an enemie to the Braine, and will quickly confound the animall faculties. My ſelfe have beene from my youth delighted in Alchymie, and have opened the bodies of diverſe Minerals and familiarly of Sal, Sulphure, and Mercurie, to my no ſmall coſt, and now and then ſome danger; and therefore I wiſh all wiſe men to beware of them: But if any one will teach his Neighbour the practiſe of fuming his Houſe with Brimſtone, let him firſt fume his owne Bed-chamber well with it certaine nights together, and ſhut his doore, the Roome being filled with fume, and goe to bed; or any ſmall Roome that is cloſe, where he would have the true force of the fume, then brag how he likes it; it perhaps may coſt him too deare.

And

And for his Apparell, if it be either of Wooll, or Silke, or of Linnen, it will ſurely doe hurt to it, as well by rotting them, as by ſtaining them.

There are ſome parts of the world, where there are great Mynes and mightie Mountaines of Brimſtone perpetually burning: and it is affirmed, and for truth obſerved, that no Man, Beaſt, Bird, nor other living creature can live neere them, nor within the compaſſe of the vapour of them. Therefore, I beleeve the author of the invention of fuming with Brimſtone, can never be able to make it good, that the vapours of Brimſtone are ſafe, nor ſo much as friendly to the life of man: witneſſe all the workers in like ſulphurous Metals, whoſe very countenance will witneſſe, that though the ſubſtances of Metals are moſt ſerviceable to be uſed, yet their ſulphurous, Mercuriall, and Arſenicall vapours of them are often prooved to be moſt deadly; yet will I not denie, but that Brimſtone is many wayes medicinable, and ſo is Quick-ſilver, to be taken into mans body, duely adminiſtred and prepared artificially; but not their crude vapours, by way of fuming. Thus much of Brimſtone, by way of fuming Houſes or Apparell.

Preſervatives to be carryed about a man in his pocket, or in his hand.

TAke an Ivorie or Wooden Box, with holes in it, and fit a Spunge into it, wet in Wine or Roſe Vineger, wherein ſome cordiall hearbes or ſpirits have beene firſt infuſed or ſteeped; as Angelica, Roſemarie, Sage, Rue, Wormewood, Balme, or at the leaſt, ſome one or more of theſe; and when the Wine Vineger in the Spunge waxeth drie, wet it in the ſame Liquor, and put it into the Box againe, weekely renewing the aforeſaid Liquor.

Or if a Limon ſtucke with Cloves alone, be carryed in the pocket or hand of a man or woman, it is very good to preſerve from contagious ayre.

It is fit to have ſomething cordiall and preſervative in a mans hand or in his pocket, to ſmell unto, for the refreſhing of his ſpirits and his ſmelling ſences, or at the leaſt in the corner of an hand-kercher; as namely, Myrrhe, Angelica Rootes, Enula Campan. Rootes, Oyle of white or yellow Amber, Zedoarie Rootes, Calam. Aromat. Wormewood, Roſemarie, Tyme, Balme, Germander, Rue, or any of theſe things, is good againſt the venemous diſpoſition of the Ayre.

The chiefe Cordials in generall uſe, are theſe that follow.

THeriac. *Andromach.* or the true *Venice* Treacle, and not inferiour to it is Mithridate. Democrat. both of which are now truely made in London. *Cordials againſt the Plague.*

Alſo London Treacle is a very good Antidote or preſervative well approved, and *Electuar. de Ovo*, or the Electuary of the Egge is alſo a very ſure good Cordiall: alſo *Theriac. Diateſſar.* by the ancient writers, called the poore mans Treacle, by my ſelfe much experienced, and approved to be good, all theſe and every of them in their natures, either mixed or given each *per ſe*, or by it ſelfe, are very good, being Diaphoreticks, or Medicines provoking ſweat, more or leſſe, and thereby opening obſtructions, and by evaporation expurging venome, and refreſhing nature, and ſo by conſequent, curing the Plague.

Hereunto may alſo be well added, ſome appropriate purgatives to be taken, both as preſervatives, and as curatives, where juſt occaſion is, namely *Pilul. Peſtilentialis, Ruffi. & Pil. Præſervans. Ioh. Bahini*, one dramme of any one of them, for a purge, is a juſt quantity for an able body, and he or ſhe may ſafely take it at any time, either at night or morning, when there is juſt reaſon, and for the doſe or quantity, by way of preſervative to be taken at one time, is one pill about the bigneſſe of a Peaſe, or in weight about 12 or 14 graines, or at the moſt 20 gr. which is tearmed a ſcruple, once in a day, or once in two or three dayes, either at evening, or in the morning, but I conceive it is beſt to bed-ward, and he or ſhe who taketh it, ought to obſerve, that if it make him or her have but one looſe ſtoole, it is ſufficient. *Purgatives uſefull.*

For it is not ſafe for any perſon to keepe his body looſe alwayes, in times of generall infection or contagion, for that that is recited elſewhere; for where emptineſſe is, evill vapours have place of entrance: Alſo, as touching the firſt of the aforenamed Cordials, one dramme for a Doſe, and namely, of *Andromach.* Treacle, or *Venice* Treacle, and a like Doſe of any the other three ſpecified Preſervatives, to be taken by way of a Curative courſe, but by way of a Preſervative, at any one time, for a ſtrong body, 20 graines may ſuffice, and may be taken without offence, which is one ſcruple; or a leſſe quantitie to a weaker body: and to a ſtrong body infected, to provoke him to ſweat, ℥. j. and ſe. or ℥. ij. by a ſtrong man, of any of them, either in Cordiall waters, or Wine, as is ſaid, may be ſafely received into the body. *Much laxitie unſafe.*

Except of the Electuarie of the Egge, the Doſe whereof is one *Drach.* at the utmoſt.

And whereas diverſe Writers preſcribe ſuch Antidotes to be taken in diſtilled waters, as of *Carduus*, *Angelica*, *Dragon* water, or the like, which in time of contagion are not onely ſcarce, but fraudulent, and ſeldome, or by few, truely made: But yet I muſt ſay, being truely made, they doe excell many other Liquors. Yet for reaſons aforeſaid, in their wants, I hold it ſafe to adminiſter Methridate, *London* Treacle, or *Diateſſaron*, or any ſuch Medicine, in good *French* wine, and ſometimes in *Spaniſh* wine, if the diſeaſe begin cold; or in poſſet drinke, made with wine, or without wine, as reaſon ſhall guide.

How to adminiſter preſervatives.

And note, that it would ever be fitteſt to give theſe Medicines, or any of them, in the moſt cordiall Liquors that may be had: but if the ſicke will as willingly take them in a Bolus, I meane in a lumpe, namely, as it is of it ſelfe, hee may ſafely doe it; yet if the ſtomach of the ſicke will not ſo admit of it, then it may not be amiſſe, to give him a draught of warme poſſet drinke, made with *Carduus Benedictus*, Burrage, or Bugloſſe, or Sorrell water, and a little Sugar boyled therein, or in want of thoſe hearbes, a plaine poſſet, and three ſpoonefuls of *Spaniſh* wine added thereto, where the Artiſt ſhall ſee it ſo neceſſary, which may time enough be added, when the Poſſet is taken from the fire, if the patient be taken cold, as is ſaid; but if the Diſeaſe begin burning, then let Sorrell or Violet leaves or Strawberrie leaves, or ſome other cordiall rootes, Hearbes, or Flowers, as is alreadie rehearſed, bee put into the poſſet, and ſome fitting ſirrup, as of Sorrell, or Wood-ſorrell, or three or foure drops of oyle of Vitriol, if it may bee had, be added thereunto, in ſuch a caſe being very Cordiall, and good; and in want thereof, plaine poſſet drinke, alone reaſonable warme, will doe well, where the recited are not, and for a need give it in white wine as is ſaid, or in Beere to the poorer ſort; or if the party take this Medicine alone, being in haſte, in want of meanes, it will doe well, by Gods Mercy, if hee bee not too much doubtfull.

And for the diſcreet Artiſt, or the attenders of the ſicke, let them take what they have ready preſently, and let the ſicke bee laid downe to ſweat, and where you can have learned counſell, refuſe it not, as is ſaid, and delay not, for by want of advice now and then, able men dye, to ſave charges, which is a lamentable folly.

An approoved Cordiall Medicine againſt the Plague, of the practice of Doctor *Burgis*,

Verbatim, *or in the very words as he writ it in his Booke: with alſo his addition in the commendation thereof.*

Medicine of Dr Burgis, againſt the Plague.

TAke three pints of Muskadine, and boyle therein a handfull of ſage, and a handfull of *Rue*, till a pint be waſted, then ſtraine it, and ſet it over the fire againe, then put thereto a penniworth of long pepper, halfe an ounce of ginger, a quarter of an ounce of Nutmegs, all beaten together, and let it boyle a little more, then put thereto 2 penniworth of Treacle, foure penniworth of Methridate, and a quarter of a pint of the beſt Angelica water you can get.

Keepe this as your life, above all worldly treaſure, take of it alwayes warme, both morning and evening a ſpoonefull or two, if you be already infected, and ſweat thereupon, if not, a ſpoonefull a day is ſufficient, halfe a ſpoonefull in the morning, and halfe a ſpoonefull at night, all the Plague time: under God truſt to this, for there was never man, woman, nor childe, that this deceived.

This is not onely for the common Plague, which is called the ſickeneſſe, but for the ſmall pockes, meaſels, and ſurfeits, and diverſe other diſeaſes.

This Medicine as you may read, is praiſed to the full, and no doubt may well deſerve praiſe, and yet were I to put my life upon a medicine, I would not chuſe the aforeſaid Medicine for many reaſons. Firſt that the compoſition thereof is uncertaine, namely by penniworthes, and the Angelica water doubtfull whether it bee of it ſelfe ſimple, or drawn of Wine, the Treacle not declared whether common or no, and further in my judgement, take it in the beſt ſence, the compoſition is rude, and too hot, fitter rather to inflame, then cure. But yet I leave it for them that have tried it, or that liſt to try it, to make it up and uſe it in the name of God, who giveth his bleſſings beyond meaſure to meane things.

A Compoſition of an Electuarie *De Ovo*, of mine owne long experience and practiſe, which I know to be very good, and is not deare.

The compoſition of Elect. de Ovo.

TAke Saffron ℥.5. and a Scruple undryed; then teaſe it, I meane, pull the parts thereof aſunder: then take one reaſonable ſmall new-layd Egge, and make a ſmall hole in the top of it, and let the white run out; then fill up the Egge with the ſaid Saffron, putting it in by little and little, till it be almoſt full, ever gently mixing the yolke with the Saffron; and in that manner of doing, one reaſonable Egge will containe all the preſcribed Saffron: This done, with part of the white of the Egge mixe a little Wheat flower, to make a paſte; then breake another larger Egge onely for the ſhell, which you may uſe as followeth.

Firſt ſtrike off the toppe as whole as you can, to cover the hole in the toppe of the former mentioned ſmaller Egge, and with the paſte aforeſaid paſte up the hole, and ſet it neere the fire, onely to drie: and after that, ſpread a fine ragge with ſome of the ſaid paſte, and againe cover the hole and the piece of the ſhell lying thereon, and drie it before the fire; then put this Egge into a wider Egge-ſhell, namely, that which was emptied before, and ſo ſet it up to the toppe in an Earthen Pot filled with Sand on a gentle fire, till the Sand be ſo hot, that the Saffron in the Egge ſmell; then for feare of burning it, take the Pot or Pipkin from the fire, and take the Egge out of the hot Sand, and put it to coole; if you finde it be but reaſonable drie, and not burned, then need it not be put any more to the fire, for it will eaſily burne, without great care had: then being well roſted, take all that paſted away, and take all the ſubſtance contained therein, beat it, and worke it ſo long together, untill no part of the Saffron appeare, but be all into one body; then weigh what the whole ſubſtance weigheth, which will be about one ounce. Which done, take of *Diptam. Alb.* of the rootes of Tormentill, of Butter-burre, called *Petacitis*, of Angelica and Zedoarie rootes, of each ℥. j. of Myrrhe and Juniper Berryes, of each ℥. ij. all theſe being made into fine pouther before, and readie; then take of *Mithridate* of the beſt, ℥. ij. of the fineſt purified Honey, ℥. ij. make this up, according to Art, into a ſtiffe Electuarie; which is done by ſtrong and ſtiffe beating and working of it altogether, at the leaſt three or foure houres: And if there want humiditie to worke it up into a juſt conſiſtence, adde *Syrrop. Limoniorum, qua. ſa. eſt.*

The Doſe of this, is at the moſt ℥. j. ſe. But for that it hath an unpleaſing taſte unto ſome delicate pallates, when I have it readie, I uſe to take thereof ℥. ſe. and of *Ther. Diateſſaron*, or *London* Treacle,

or

or good *Mithridate*, of any one of these, ℥. j. ſc. and mixe them in white Wine, with alſo a few drops of Oyle of Vitriol, namely, foure or five drops at the moſt, with alſo one ounce of ſome Cordiall Syrrup, as of Bugloſſe, or Sorrell, of Citrons, or Limons, or Wood-Sorrell, when it is to be appointed to delicate perſons. And all that I give at once to a man or a woman, and lay the partie to ſweat gently at the leaſt for three houres. Or in want thereof, I put onely a quarter of a pint of white Wine, with a little Sugar to it, either mixed as is ſaid, or ℥. j. ſc. of the ſaid Electuarie alone in a bole or lumpe to ſome, for it needeth no other mixture for the adding vertue thereto, for it is a moſt excellent Cordiall alone.

And I would adviſe thoſe which cannot have all the ingredience of this compoſition, as namely in the Countrey, that they make readie the Egge and Saffron (as is ſaid) and take onely a double weight of good Muſtard-ſeed thereto, and with about one ounce of good Honey worke it well into an Electuarie, and uſe thereof ℥. j. ſc. at a time, in Poſſet-drinke, or Wine, according as the ſickneſſe taketh men: if it take them cold, I hold it better given in Wine, or Poſſet-drinke made with Wine, if it may be had, then with the uſuall Cordiall Waters, which is but a meere *Flegma* diſtilled from the bare hearbe at the beſt, and often not truely ſo good: for I well know, that Wine is a true Cordiall, and gladdeth the heart of man; which I muſt beleeve to be ſo, for that the Booke of God doth ſo teſtifie of it. And I know alſo it reſiſteth putrifaction, in the very nature thereof.

Wherefore, in my opinion, if it were not in ſome who apparantly have a fervent burning Feaver, where reaſon it ſelfe would adviſe me to forbeare Wine, I would uſe Wine before eyther Angelica, Carduus, Dragon Water, or any of the like kindes, in the caſe of the Plague, as I have diverſe times elſe-where recited.

This Medicine either taken alone, a *Drach.* or foure Scruples, to a ſtrong perſon diſeaſed, is excellent, if it be taken with Syrrup of Citrons, ℥. j. White or Claret Wine, ℥. iij. or iiij ℥. and foure drops of Oyle of Vitriol, and the diſeaſed layd to ſweat upon it, being orderly attended, it is a moſt precious Medicine, by my ſelfe very often tryed; I having often made the aforeſaid receit, and uſed it out with good ſucceſſe. *The Uſe of Elect. de Ovo.*

Another Compoſition of Electuarium De Ovo, *being plaine, cheape, and good.*

ELectuarium de Ovo, or the Electuarie of the Egge, as it was made and preſcribed for publique uſe in *Germanie*, by the Phyſicians of the Emperour *Maximilian*, in the time of a great Plague there, in *Anno Domini* 1600. being a moſt excellent Preſervative

vative againſt the diſeaſe, and alſo a good curative medicine, as followeth.

Take a new Egge and make a hole in the toppe, put out the white, and fill the place with Saffron undryed onely teaſed, and the flakes opened aſunder, mingle it in the ſhell that it be like a paſte, the yolke of the Egge and the Saffron together, and ſtoppe the hole being filled, and boyle or ſtew it, or rather bake it gently in the Imbers, till it may almoſt be brought into powder but without burning of it, then adde unto it of the rootes of Tormentill *Morſus Diab.* Angelica, Pimpernell, and *Zedoarie* of each ℥ij. make this into powder, then take ℥ij. of old *Venice* Triacle, and in want thereof ſo much *Mithridate*, and with water of Scabious, make it into an Electuary, and give at one time for the largeſt doſe or quantity, one Drach. and a halfe to a ſtrong body to provoke him to ſweat, if he have the ſickeneſſe. It will provoke ſweat plentifully, but if it be by way of a preſervative to prevent ſickeneſſe, then give him but the weight of 3 d. or 4 d. or 6 d. at the moſt at one time, and let the patient upon the receit thereof be layd to ſweate for 3 or 4 houres, and it will produce an admirable effect of health, if it be with good order and diſcretion adminiſtred.

The compoſition of the ancient Treacle, Theriac. Diateſſar. or the poore mans triacle.

TAke choſen Mirrhe, good Bayberries, hulled well, *Ariſtolochia* rootes, and *Gentian* rootes, of each ʒ i ℥, diſſolve the Mirrhe in ſacke, and gently evaporate ſome of the ſacke away, and make the other ingrediences into fine powder, then take ℥ xij. of pure honey, and according to Art, incorporate it, and mixe all the aforeſaid things with it, make it boyle a little gently, and make an Electuary thereof and give a ℥j. f. or ℥ij. of this Electu. at a time to a ſtrong body, yea a ſtrong perſon may ſafely take ℥iij.

The doſe of Ther. Diateſſ. And lay the party to ſweat; you may give it in white wine or claret or ſack, if the diſeaſe begin cold, or in Beare, Ale, or poſſet drink, and I have found by much practiſe, that it is a ſure good Cordiall, and children may take it.

This medicine I my ſelfe would take upon the defence of my own life, as ſoone as one of the greateſt and deareſt compoſitions in the Apothecaries ſhop.

The price of Ther. Diateſſ. And I further well know, that the Apothecary may honeſtly afford this kind of *Diateſſar.* truly made for 4 d. an ounce, and that an ounce thereof may be ſufficient at ſeverall times, given to cure a man diſeaſed of the Plague, God giving his bleſſing to the meanes, and by way of preſervatives given, it may defend many from it: But I confeſſe it is ſome-what a bitter medicine, and ſo (as I have ſaid) are moſt all good medicines in practiſe for that diſeaſe, wherefore whoſoever miſliketh a good medicine for the bitterneſſe by his nice refuſall, may finde his diſeaſe farre more bitter.

Nam

Nam dulcia non meruit, qui non guſtavit amara.

This medicine is alſo excellent good againſt paines and gripings of the ſtomach or belly, taking the quantity aforeſaid, or leſſe, and for the diſeaſe of the Collicke, or any windy paines or gripings of the ſmall guts, it is the beſt medicine that ever I knew. *The vertue of it for other diſeaſes.*

But beware it be not given to women with child, for to ſuch it is not gratefull nor very ſafe, becauſe of the Mirrhe, but to any woman which wants the due ſickneſſe of her ſeaſons, it is an excellent medicine; and otherwiſe, for any perſon diſeaſed with the Plague. *A caveat for adminiſtring of Ther. Diateſſ.*

A Cordiall Confection or preſervative for women with child, children, infants and tender people.

TAke choſen rootes of *Set-well* called *Zedoary*, the pureſt of them halfe a pound, put them one whole day to infuſe in Roſe-water and wine-vineger mixed, then let them dry gently, which done, with fine Suger and Roſe-water preſerve them, and give a ſmall quantity of the ſame, halfe an ounce or thereabout faſting, the like you may doe with Angelica rootes, or with *Enul. Campan.* rootes, or with a roote called Butter-burre, which is one of the moſt excellent rootes for the cure of the Plague that ever was found out by Art, this root the *Germanes* name Peſtilence roote, as being held the beſt preſervative, and alſo cure for the diſeaſe of the Plague or Peſtilence. *The receit.* *The great vertue of the root of the Butter-burre.*

Another good Cordiall for women with child, children, or delicate people.

TAke a Lemon or a good Citron, ſtew it in Roſe-water and Sugar cloven firſt into foure parts, and when it is halfe ſtewed, adde ſome Cinamon in powder thereto, it is a ſingular good Cordiall ſo taken, and for a preſervative for tender women with childe, and dainty people, the quantity of a Nutmeg thereof in a morning, for ſuch as are delicate and tender, and cannot take medicines well that are bitter. Alſo for women with child, if they take ſometimes a toſte ſprinkled with roſe vineger, or ordinary wine vinegar, then ſpred it with butter and ſtrew a little powther of Cinamon thereon, and eate it faſting, it is a Cordiall and a very good preſervative for them. *The receit.* *The doſe of it.*

And amongſt the reſt of good preſervative Cordials *Pil. Peſtilent. Ruffi.* is not the leaſt, for it is a preſervative and purgative, yea, and a curative medicine of great vertues, and very highly commended by diverſe antient and moderne Writers, and which of mine owne long experience, I have found ſingular good. *Pil. Ruffi. Peſt.*

Of which take faſting the quantity of a ſcruple, which is 20 grai. or neare the weight of 3 d. as a preſervative, and the ingrediences thereof are fine *Aloes*, *Mirrhe* and *Saffron* by Art made into Pills, and the reaſon that the learned doe aſcribe ſo great vertues to the aforeſaid ingrediences, *The doſe of it.* *The reaſon of its vertue.*

ences is for that they ſuffer not the body of man to putrifie, for *Mirrhe*, as *Galen*, *Avicen*, and many other antient Writers affirme, and experience ſheweth them, reſiſteth putrifaction, ſo that a dead corps preſerved in *Mirrhe*, neither altreth nor ſtinketh in a long ſeaſon, and alſo *Aloes* hath an excellent quality in purging Choller, and comforting and corroborating the Ventricle, and in preſerving it from putrifying, and Saffron, by the conſent of all the learned is a true cordiall medicine, and as *Avicen* teſtifieth, it never altereth humours to the worſt, but refreſheth, amendeth, and purifieth the putrid, and conveyeth with it other medicines to the comfort of the heart, and other principall parts of the body.

Aloes, its vertue.

And one *Iohannes Hartmannus* an antient reverend Writer, in his Treatiſe of the Peſtilence, writeth in commendations of theſe Pills, theſe very words following.

Non immerito his Pillulis magnam adhibeo fidem, in ſeptem conſtitutionibus Peſtilentialibus, quas tempore meo vidi, nemo ipſis uſus, Peſte interiit.

In Engliſh thus.

Not unworthily doe I put great truſt in theſe Pills, for ſeven ſeaſons of the Plague, which my ſelfe in my time ſaw, there was not one man dyed that uſed them, meaning the ſaid Pills, and the quantity preſcribed by the ſame Author, to be taken by way of preſervative, as is recited, was 20 grain. which is about the weight of 3 d. and I my ſelfe upon my owne experience affirme, that in curing the diſeaſe where a purge is required, there is no purgation within my practice, ſafer nor ſurer then this Pill is, and to purge, the doſe is ℥ j. which although I confeſſe in ſome bodyes it purgeth but ſlowly, yet in the diſeaſe of the Plague generally it is moſt requiſite and ſafe, to be very ſparing, and indeed well adviſed in giving way to any purging medicines at all.

A good ſafe medicine, for any whoſe complaints begin with a fulneſſe in their ſtomach, with nauſeouſneſſe and deſire to vomite.

BEing taken, the firſt day that a man findeth himſelfe ſo to be infected, and to ſuch the medicine hath at once taking perfectly cured many, and it is a medicine which my ſelfe would as ſoone take at the firſt as any medicine, if I felt my body upon fulneſſe diſeaſed, for it purgeth away the venome, both upwards and downewards, before nature be overcome thereby: but I muſt crave your pardon to deliver the medicine in Latine, for that I hold it not fit for any to undertake the making or preparing of the ingrediences thereof, for the avoyding danger; But the diſcreet, faithfull and underſtanding Surgeon or Apothecary.

Rec.

Rec. *Antimonii clarificat. Hiacinth. modo Pellucidi, gr.* 4. *Conſer. flores Borag.* ℥. *ij. Specier. Liberan.* ℈. *ſe. Maſtich. gr.* 5. *Miſce & fiat bolus.* Satis examinata.

Give this whole quantitie to a ſtrong man at once: but I hold it beſt, at the time of the taking of it, that hee lye on his bed in his clothes, I meane, till the Medicine have done working, and that hee drinke warme Poſſet-drinke after each Vomiting; and then, and not before, if hee finde himſelfe not well, let him goe to his naked bed, and faſting, take a nap (if hee can) and then when hee awaketh, give him ſome ſmall Cordiall, as namely, ℥. j. of *Mithridate*, or of *Diateſſaron*, or of *London* Treacle, in Poſſet-drinke, and gently provoke him to be in a ſweating manner, not to ſweat too ſtrongly, and that for three or foure houres. Which done, there may be given him a cup of Beere, with a toſte, if he deſire to drinke, and give him to eate ſome light digeſting food, and I doubt not hee will doe well very quickly. *The Doſe.*

But this kind of cure is onely for the beginning of the diſeaſe, and to be given, as is ſaid, to a full body, which hath a complaint of fullneſſe of his ſtomach. And ſo herewith I will conclude further repetition of Purgative Medicines, in caſes of the Plague; adviſing all diſcreet Artiſts to uſe them with all poſſible care, caution, and counſell of the Learned, where it may be had, as they tender the lives and healths of their Patients, well weighing the following Inſtructions and Caveats.

Cautio è Petri Sibyllenij Medico inſigni Germaniæ in uſum Medicinarum Catharticarum in curanda Peſte.

A Caveat in the uſe of Purgative Medicines, in caſes of the cure of the Plague.

QVod verò aliqui Medici ſentiunt ſolutiva Medicamina in principio hujus acutiſſimi morbi convenire, & venenoſam materiam eorum vi, & calore è corpore educendam eſſe horum ſententiæ Galeni *&* Avicennæ *teſtimonia & firma argumenta ſupra expoſita valde adverſantur, quorum authoritatem* Hippocrat. Lib. 4. *de ratione victus in morbis acutis confirmat cum inquit: Ubi in morbo venæ ſectio & ſolutiva Medicamenta neceſſaria ſunt, venæ inciſio præcedere debet.* Et Avenſoar. Lib. 3. de Theiſir *dicit, ſed antequam fiat purgatio*

gatio aliqua præcipiatur, ut fiat evacuatio universalis, & hoc cum Phlebotomiâ &c. Et quia Medicamentorum laxantium in hoc casu usus gravis, infensus & periculosus propter multas evidentes causas, corpori esse solet, Eapropter imperitorum, barbarorum, & circumforaneorum Medicorum curam, qui violentissimis Pharmacis causam morbi expellere opinantur, utpotè Mercurio præcipitato *quem rubicundum pulverem falso præstantem prædicant huc dialecto modo adscribam. Cathartica sive purgantia Medicamenta, magnam vim caloris in se continent, qua velociter attrahunt, & humores in venis commovent, simulque expellunt quâque commotione natura regetiva totius corporis in sua* Crisi *& conatu obtunditur & prosternitur, & plerunque evenit expulsio symptomatica morti vicina quare non conducunt in hujus Pestis initio, præterea omne Catharticum movet materiam ad interiora, hoc est, à superficie ad Centrum, quod est Cor: In omni autem venenosâ materia, hoc improbatur, materia enim venenosa à Centro ad superficiem expelli debet. idcirco Pharmaca in initio morbi exhibita plus incommodi quam commodi adferunt.*

Huc accidit quod Cathartica hujusmodi Medicamenta quæ fortia & acuta sunt per se venenosa censentur, non est autem venenum veneno adponendum, omne enim tale additum suo tali (ut est communis Regula) facit illud magis tale.

Major probatur ex Joh. Mesue de consolatione Medicinarum, *ubi inquit, omnis Medicina laxativa est de genere venenosarum rerum, cujus excessum Natura non patitur, nullo propterea Cathartico Pestis tempore corpore vacuanda sunt. Quandoquidem Medicus pro suo officio & doctrina quam profitetur, minister, custos & imitator Naturæ dicitur, Natura autem in Peste à Centro ad superficiem conatur venenum pellere, ergo Medicus ritè imitatur Naturæ ductum juxta Aphorism.* Hippocrat. Libr. 21. Aphorism. 1. *quo Natura vergit ad loca conferentia eo ducere oportet &c.*

Et quia Cathartica innata, sua vi & crudelitate Naturam regetivam totius corporis prosternunt, qua ob Pestis quoque acuitatem & impetum languida & infirma est, virtus vero hoc tempore conservanda qua prostrata periclitatur æger, ergo nullum Pharmacum dandum est.

The

The precedent Caveat touching purging Medicines *Engliſhed, is in effect as followeth.*

ONe *Petrus Sibylleniu*s, a learned Phyſician of his time, in his Treatiſe *De Peſte* doth write touching the uſe of Cathartick or purging Medicines, in the caſe of the Plague, as followeth, and reciteth his reaſons and authoritie for the ſame in theſe words.

Solutives forbidden in the cure of the Plague.

Concerning the opinion which ſome Phyſicians hold, that ſolutive and purging Medicaments are convenient in the beginning of this moſt ſharpe ſickneſſe, the Plague, and that the venemous humour is to be driven out of the bodies infected with the Plague, by their force and heat: The cenſures of *Galen* and *Avicen*, by ſtrong arguments, are repugnant to their opinions. And *Hippocrates* confirmeth their authorities in his *Lib.* 4. *de Dieta*, or of *Diate*, which is to be uſed in ſharpe ſickneſſes; where hee ſaith, when in any ſharpe ſickneſſe the opening of a Veine or ſolutive Medicaments are neceſſarie, the Veine is firſt to be opened. And *Avenſoar* in the *Lib.* 3. *de Theiſir* ſaith, before any purgation be, hee would adviſe that a generall evacuation might be made; meaning, that letting bloud is fit to be done. And becauſe, ſaith hee, the uſe of laxative and purging Medicaments are ill, hurtfull, and dangerous to the body, by reaſon of many evident caſes; therefore hee likewiſe condemneth the error of the unlearned and barbarous Phyſicians and Mountebankes of his times, which would drive away the cauſe of the diſeaſe by violent purging Medicines, as namely with *Mercurius præcipitate*, which red pouther they call falſely a precious Cathartick or purging Medicine; which having a great force of heat in them, they doe draw forcibly and ſwiftly both the bloud and humours which are in the Veines, and doe drive them out, to the prejudice of Nature: by which commotion, Nature which governeth the body, is diſabled, ſtupified, and beaten downe in her endevour, touching her *Criſis*, her working and contending with the poyſonous vapours, ſo as for the moſt part it hapneth, that thereupon proceedeth a ſymptomaticall expulſion, which is not farre from death it ſelfe. And therefore ſuch Medicines are not fit to be uſed in the beginning of the ſickneſſe, namely, the Plague. Moreover, all purging Medicaments draw the humours to the inward parts, that is, from the ſuperficies or outward parts to the center of the body, which is the heart, and the effects follow deadly; for in venemous diſeaſes, the venome ought to be driven from the center to the outwards: therefore Cathartick or purging Medicines being miniſtred in the beginning of this ſickneſſe, doe more hurt then good. And in this further is to be added, that ſuch purging Medicines as are ſtrong and ſharpe, are eſteemed to be venemous of themſelves, and there is no venome or poyſon to be put to poyſon; for every ſuch thing as is added to his like, as the generall Rule ſaith, maketh that more ſuch.

But in our Climate that Rule is not in generall good, but is left to fit occaſion and due time.

The Major is prooved by *Ioh. Meſues de conſolatione Medicinarum*, where he ſaith, that all laxative Medicines are of the ſort of venemous things, whoſe exceſſe nature cannot endure: therefore in time of the Plague, the diſeaſed bodies are not to be made emptie by Purgations, ſeeing that a Phyſician is called, by reaſon of his Office and Learning which he profeſſeth, a miniſter, a keeper, and an imitator of Nature.

The Office of a Phyſician.

The helpe of Nature in the Plague.

Nature in the Plague, endevours as much as in her is, to expell the venome to the ſuperficies of the body: Therefore a Phyſician ought to follow the tract of Nature, according to the Aphoriſme of *Hippocrates*, 21 *Lib.* 1 *Aphoriſ.* Where Nature aymes his courſe, thither it behooves the Phyſician to intend his artificiall helpe.

A reaſon of the danger of laxative Medicines.

And becauſe Catharticke meanes, by their innate force and crueltie, doe overthrow Nature, the ruler of the whole body, which alſo is made weake, by reaſon of the ſharpeneſſe and force of the Plague, Nature is to be preſerved, and no laxative Medicine to be given.

Of varietie of particulars for Brothes to be made for the ſicke, according to mens ſeverall *abilities or neceſſities, and as the time and place hath to be added more, or in part forborne, upon each juſt occaſion.*

Of hearbes convenient for Brothes.

And firſt, for hearbes fitteſt to be uſed in Brothes in this diſeaſe, they are Bugloſſe, Borage, Endive, Succorie, Strawberrie leaves, Marigolds, Parſely, Betonie, Violet leaves, Sorrell, Wood-Sorrell, Plantane, any of theſe are very good, and ſo is Roſemarie and Tyme, ſo that you take not too much of any of them, remembring alſo for the ſeaſoning and reliſhing of Brothes, as alſo for Sawce, you may ſafely make uſe of Sugar, Cinnamon, Currans, Citrons, Orenges, Limons, juice of Limons, ripe and unripe Grapes, preſerved Barberries, Cherries, and Prunes, Wine Vineger, Verjuice, Mace, Cloves, Nutmegs, Saffron, and Wine, if occaſion be, to refreſh the ſpirits; for as I have ſaid, I eſteeme it farre above any the ſimple waters of hearbes for a Vehickle, in the diſeaſe of the Plague.

Neceſſarie meats to be boyled in Broth.

Alſo you may make your Brothes either of a Cock, or rather of a Cock Chicken, or of Mutton or Veale, or for the meaner ſort, of what elſe their meanes will reach unto; for many things that be held unſavourie, nauſeous, yea, and dangerous to the daintie, are found to be very convenient, wholeſome, comfortable and precious to the poorer ſort; as Garlick, Leekes, Onions, Chyves, Wormewood, Centurie, Angelica, Bay-berries, Gentian, and diverſe others, whoſe taſtes are harſh.

A Cordiall drinke to coole and contemperate *the blood, being a* China *broth, if the patient pleaſe to be at the coſte.*

TAke the rootes of *China*, cut into ſmall ſlices ℥ iij, infuſe them 12 houres at the leaſt in five quarts of faire water, adding of Burrage and Bugloſſe, of each half a handfull, of cloves in number three, with a like weight of cimamon, and mace, boyle theſe gently, till one third part be conſumed: and if you pleaſe, ad one ſpoonfull of Roſe-water, and ſome little Sugar to make it gratefull in taſte, and alſo three ſpooneſuls of juyce of Lemons, and in want of juyce of Lemons, ſo much good Wine vineger; you may give the patient at one time, to a quarter of a pinte, and he may take of this decoction foure ſundry times in a day ſafely at the leaſt, and oftner if he like it. *The receit of it.* *The Doſe.*

Alſo remembring that the ſicke have ſome other Cordiall prepared for him, if need be, to provoke him to ſweat, the ſecond or third time, and ſome odoriferous thing in his hand, or neare at hand by him, often to ſmell unto, ſuch as are elſewhere ſet downe, or ſome other of the like nature.

And in want of *China* rootes, take the double part of *Sarſaparilla*, and in want of that, a large cruſt of the beſt bread of wheat, for the poorer ſort, this alſo is good to contemperate the blood after ſweating, and further it is of ancient Writers eſteemed, as a very good Cordiall medicine to give the party the quantity of a drach. or ℥. i. j. of the fineſt *Bolus Armen.* in a cup of white Wine, with halfe a ſpoonfull of Roſe-water, and a little Sugar if you pleaſe, and in want thereof, give it in poſſet drinke.

Moreover if you ſee occaſion, and can have them in your poſſet drinkes or diſtilled water, that you uſe as vehicles or liquours, in which you give your medicines, you may put the quantity of one or two ounces of Sirrup of Citrons, or of Lemons, or of Sorrell, or Wood-ſorrell, or of ſower Pomegranates, alſo it is very good in every ſweat provoking Cordiall drinke, that you adde oyle of Vitriol, three or foure drops to a doſe, but no more for offending, yea in all Iulips, a few drops thereof are both cordiall and warrantable, and in want thereof, in a cooling Julip may be added *Sal prunelle*, ſo that the quantity exceed not ℥. ij. *per haſtum unum.*

An

Another Iulip for the Diſeaſed of the Plague.

The receit.

TAke French Barley, or in want thereof, Engliſh Barly, about one good handfull, faire conduit water, or ſpring water, three quarts, boyle the Barly about halfe an houre in the water, and then caſt away the water, then take about three quarts of water againe, and of Mace and Cloves, of each halfe a ſcruple, or 20 graines, which is a ſcruple, and boyle the ſaid Barley, and the reſt, one houre or more, till one third part of the liquor, or thereabouts, bee conſumed; then cleere of this Barly water into a glaſſe: and to each quart of water, if it may be had, adde of Sirrup of Wood-ſorrell, of Citrons, of Limons, of Violets, or of any one of theſe ℥ iij. of roſe water one ſpoonefull, of Wine vineger two ſpoonefuls, of oyle of Vitriol ten drops, and if you can get no ſirrups at hand, uſe Sugar to make it pleaſant of taſte, and in want of oyle of Vitriol, uſe two more ſpoonefuls of Wine vineger, and note that whenſoever you put oyle of Vitriol into any liquor, and that you would give it the patient, that you ſhake the glaſſe ever, when you put out any, for the Oyle will fall to the bottome, and the laſt draught will bee very dangerous, and too ſharpe to be drunke.

A caution in uſing oyle of Vitriol.

Againſt Thirſtineſſe.

Diverſe qualifications of thirſt.

WAter and vinegar mixed, and often held in the mouth, and put out againe is good, juyce of Lemons, and water ſo uſed, letting ſome part downe, is alſo very good; alſo preſerved cherries, and ſtewd Prunes are good to hold in the mouth, and to be taken in Quinces, or conſerve of Barberries, or Tamarinds from the *Eaſt-India*, or it were good the patient had by him, often to ſuck from a liquoriſh ſtick ſome cordiall ſirrup in a glaſſe, as of Wood-ſorrell, of Citrons, Limons, of Violets, or ſirrup of Vineger, or of ſome ſuch like, alſo as is repeated, *Sal Prunelle* ℥ ij, and ſome ℥ ounces of Plantaine, or ſtrawberry water doth well coole thirſt, and is cordiall.

Againſt faintings and ſoundings, which happen in the ſickneſſe.

Medicines againſt ſoundings.

LEt the ſicke have ſomething to ſmell unto, that hath Roſe-vinegar, with a few drops of Roſe water in it, alſo give the ſick, either ſome Treacle water, or ſome good Bezar, or Cinamon water, Angelica water, or Mint water, diſtilled with wine, or a little good *Aquavitæ*, or a little good claret wine, mul'd with a few cloves, and roſemary, and Sugar

ſugar therein, any of theſe are good Cordials, or let him hold a Limon ſtucke with cloves, as is ſaid in his hand, or have ſome cordiall Pomander in his hand, and to wet his temples and forehead with wine vinegar, and a little Roſe-water mixed, where it may be had.

A good Poſſet drinke in the ſickneſſe, if the diſeaſe begin hot.

MAke an ordinary poſſet with Ale and milke, purifie it from the curd, and boyle gently therein (if you deſire to have it cooling) ſorrell, ſtrawberrie leaves, plantaine leaves, Violet leaves, or ſome of them, adding a little Wine-vineger, and ſome Sugar, and a little Roſe-water, if you pleaſe, and this will bee a good drinke for the patient to continue with in the time of his ſickneſſe.

Alſo the juyce of Lemons or Orenges, wrung into the Poſſet-drink, is likewiſe very good, and the beſt of all to make it tart, and not over ſowre therewith, is a little oyle of Vitriol, for that no medicine is ſo precious againſt the peſtilentiall Feaver, as the oyle of Vitriol, it being warily adminiſtred. *Oyle of Vitriol.*

Another good Poſſet drinke to give a ſweating Medicine in, if the parties ſickneſſe begin cold.

MAke a Poſſet firſt with Ale and milke, in an ordinary manner, unto which adde Marigolds, Burrage, Bugloſſe, or ſome of them, and gently boyle them in the drinke, and to a quarte thereof, adde of good ſacke a quarter of a pint, and to a draught of this drinke, put any cordiall medicine, to provoke ſweat, and give it warme, if the diſeaſe begin cold, as is ſaid; but if it begin hot, leave out the ſacke, for as I in this booke have oft repeated, I hold wine better and ſafer to give a cordiall with, in the plague, then any ſimple water diſtilled, although it were diſtilled, either from Angelica, Dragon, Centory, or *Carduus Benedictus*. *Wine the beſt for preparing a Cordiall with.*

A good Cordiall medicine for the poorer ſort, though it were to women with Childe, for they may take it ſafely.

TAke Bayberries, cleanſe the huskes, and dry them, untill they wil be made into powder, then powder then, or for a need grate them, as you doe Nutmegs, and give a ſmall ſpoonefull thereof in a draught of white wine, ale or beere, and let the party be laid to ſweat, and forbeare *The receit.*

The order in administring of it. beare sleepe, it is a good and a safe Cordial, to which may be added Sugar, or cordial sirrups at pleasure, and note that even *Galen*, the Prince of Physitians, as I said, attributeth unto Antidotes, meaning the preservatives, that open the pores, and provoke sweat, the whole cure of the Plague, which this mean medicine, mightily and safely doth. It also is exceeding good against the wind Collicke, and all tortions and disturbances of the bowels.

The severall vertues of it.

An other good cordiall for the poorer sort.

The receit of it. TAke of the best Walnuts in number 20, chosen figs 16, Rue, ℥ i. se. Wormewood leaves, and seedes pickt, halfe a handfull, Gentian rootes ℥ ij. round *Aristolochia* rootes, ℥ iij. long *Aristolochia* rootes ℥ j. *Tormem. Diptam.* rootes, of eath halfe an ounce, Bayberries, halfe an ounce, common salt ℥ iij, Methridate ℥ ij. mix all artificially together, except the methridate, then weigh the whole lumpe, and take three times so much pure honey in weight, as all the ingrediences are, and being first all well wrought together, adde the Methridate, and mix it also.

The dose of it. Keepe this close covered, and give for a preservative, the quantity of a Nutmeg, but by way of cure to provoke sweat, give as much as a Walnut thereof, and sweat well upon it: this is an approoved good Medicine, and not much unsavovry to bee taken, if it bee truly made.

But if any person, for the unsavourinesse of a medicine, will refuse helpe, let him forbeare, and expect, and take of what followes: and further note that it will not be amisse, as I have said, that after any cordiall medicine be swallowed downe without liquor, that a cup of good wine bee given, or in want of it, warme posset drinke, or Beere.

Another good Cordiall for poore people at a meane price to bee had.

The receit. TAke the kernels of Walnuts, of the hearb Rue, and of chosen figges, of each ℥ i, of common salt ℥ i j. of Saffron ℥ i. let all this be very well beaten together, with as much wine vineger as will worke them up into the forme of an Electuary, and take thereof fasting daily the quantity of two Drachmes.

The dose.

Certaine

draw it forward; in which cupping-glaſſes, with and without ſcarification, as occaſion ſhall require, are convenient and good to bring forward a *Bubo*.

And Horſe-leeches are alſo very good to be ſet on the place; and if the Leeches will take, it is a good ſigne of health: for which purpoſe, if you wet the Botch with a little faire water and Sugar warmed, and ſomewhat wiped off againe, they will take the better. *By Horſe-leeches.*

Alſo Pigeons dung warmed, and made into a Cataplaſme or Poultis, with a little Swines Fat and Turpentine mixed, and very warme applyed twice a day, or Hens dung in the like manner prepared, are very good attractive Medicines, in that diſeaſe. *By Pigeons dung prepared.*

Paracelſus much commendeth the application of any live Fiſh to a *Bubo*, for the drawing out the venome, the Fiſh being living, then ſuddenly ſlit open, and put to the *Bubo*, where it may be had, as namely, either a Tench, a Carpe, Pike, Roche, or Peach, three or foure Fiſhes one after another, each kept three or foure houres on the place; and afterwards ſome good attractive Cataplaſme applyed thereunto, as namely, one of the hearbe Scabious. *By live Fiſhes applyed.*

A good Emplaſter for the firſt, to ripen and to breake a Bubo.

TAke Figges and Raiſins ſtoned, of each ℥. ij. *Sal Niter* ℥. iij. foure Leaven ℥. iij. Honey ℥. j. with Oyle of Camomil ℥. iij. and of Milke vj. ℥. make theſe into an Emplaſter; then ſpread it thick, warme it, and apply it to the Botch or Carbuncle, it is a ſingular good attractive. *Receits of Emplaſt. to be applyed.*

Another more forcible drawing Medicine, to draw out a Bubo *or Carbuncle.*

TAke the hearb Crowes-foot, made into a Cataplaſme or Poultis, onely by bruiſing it very ſoft with a Peſtle in a Clout, and applying it, it is ſingular good to draw it forward; but it will draw forceably, and bliſter the skinne: Alſo Muſtard-ſeed and Pigeons dung well beaten together, with a little Swines fat mixed, and very warme applyed, doe vehemently heat and attract forward a Botch or Carbuncle.

A Cataplaſme for a Carbuncle, very milde, Anodine, and very effectuall.

TAke Plantane leaves, or roots in want of leaves, a good quantitie, ſhred them very ſmall, then bruiſe them very well, and ſtraine out the juice, and with crums of houſehold leavened Bread, boyled in the *Receits of Cataplaſmes.*

aforeſaid juice, or in the juice of Sorrell, is as good; make a Cataplaſme thereof, adding in the boyling ſome Barrowes greaſe, and apply it very warme to the place, and ſhift it three or foure times a day, it ſwageth mightily the paine, and draweth unto it and yet evaporateth the venome mightily: and the ſame doth the juice of Scabious ſo done, or the hearbe Scabious ſtamped and boyled in new Milke with crums of Bread. Provided alwayes, that in the making up thereof, or of any ſuppurating Cataplaſme, you forget not to put ſome fatneſſe to it, as Oyle of Lillies, Camomile, or Roſes, or at the leaſt Butter or Swines fat for a need: any one of theſe are good, and may ſerve; but the firſt is beſt, and ſo the next: and be ever ſure to apply all Poulteſes very warme.

Another Cataplaſme to a Bubo.

Rec. OF the greater Comfrey hacked and beaten and boyled in Milke, with crums of Bread, to a Cataplaſme; then adde a little Butter and a few Pruines boyled therein, taking out their ſtones: the which Medicine doth ſpeedily digeſt and ſuppurate a *Bubo*.

Another attractive Medicine, to ripen a Botch.

Rec. A Great Onion, and having made a hole in the top thereof, and part of the Onion taken out and filled with *Mithridate*, or Treacle, and roſted in embers, let it be very warme applyed to the Botch, and uſe it in forme of a Cataplaſme, it is a very excellent Anodine, ſwaging great paine, and proper for the diſeaſe, to draw forth the venemous humours, as alſo utterly to quench the maligne power thereof.

The concluſion of the Treatiſe. I will here conclude touching outward applications in the cure of the Plague, having at large elſewhere often recited, that concerning all the accidents pertaining to that noyſome diſeaſe of the Plague, as *Buboes*, Carbuncles, and Blaines, that the Peſtilentiall Feaver being once remooved, all thoſe ſymptomes doe heale farre ſooner then any other Boyles or Sores doe: for the effecting whereof, the Reader hath in this Treatiſe many good ſoveraigne Medicines, diverſe of them of the Author his owne long experience, whereon the Surgeon may rely, if God pleaſe to be merciſull to the Patient, in adding his bleſſing to them: to the which end, let the Surgeon and the ſick jointly together, and each for himſelfe, call upon God for a bleſſing upon the meanes, and doubtleſſe he will heare, and have mercie: for in truth,

Ni Deus addiderit vireſque infunderet herbis,
Quid prodeſt ditamus vel panacea juvat?

The

And the party that taketh it ought to lye in his warme bed, fitted with ſufficient coverings, before he take it in, then let him take his medicine, either mixed with ſome cordiall thing, as a little Methridate, true Treacle, conſerve of Roſes, or Quinces, or give it onely mixed with the pappe of an apple, and ſo it is eaſieſt taken in by infants, as I ſuppoſe, for it needs no addition at all, to adde vertue to it, onely the addition chiefly ſerves, as a vehicle to carry the Medicine without waſting into the ſtomach, for that it is a powder ſmall in quantity, and therefore ſubject to be waſted in taking.

Alſo the party that is to take it, muſt have ready made before hand, an ordinary poſſet drinke, of Ale and milke, to the quantity of a quart, very warme, and when he hath taken in his medicine, ſhortly after let him drinke a reaſonable full draught of his poſſet, well warmed, and then lying on the one ſide, let him be warme covered, head, face and all, leaving full breathing ſcope, and ſo in Gods name let him lye ſtill, and ſweat gently, if he can beare it 3 or foure houres, were beſt, and ever as he thirſteth, let him freely take warme poſſet drinke, which were beſt to be given him in ſome Cruet, or ſpout pot, that he take no ayre, raiſing himſelfe up in drinking, and when hee hath performed his due ſweating, let him be wiped dry, and ſhifted, and then give the patient ſome warme broth. *Neceſſaries to be provided, before the taking.*

And the next day he may by Gods mercy ſafely, as for himſelfe, goe abroad, but for the day of his ſweating, let him keepe within, and give him food competent, in a ſparing quantity, ſuch as is of a light digeſtion: and deny him not drinke, ſo that it be ſomewhat warme at the fire.

Thus much for thoſe which take the medicine within 24 houres of the firſt complaint.

Item, unto ſuch as the diſeaſe hath taken greater hold of, namely that before the receipt of the aforeſaid medicine or Antidote, the Patient have outward tumours, as Botches, Carbuncles, or Blaines not yet broken, nor ripe, if he take the medicine as aforeſaid, and ſweat well upon it, the venome of the ſores, ſhall through Gods mercy, be ſo evaporated by his ſweating, that they ſhall decline of themſelves, and not at all come forward, and if any after doe breake, as being formerly ſuppurated, before the medicine tooke place, they ſhall as ordinary boyles, eaſily and quickly heale, with every meane medicine.

And notwithſtanding, generally, one ſweating ſerveth, yet nevertheleſſe, if occaſion be, the patient may ſafely take a ſecond doſe, or proportion, yea, and a third without danger, as diverſe have done; and ſo he may be the more confident of anſwerable ſucceſſe, namely, of the full and ſafe recovery of his perfect health, by Gods mercy: nevertheleſſe, if he finde his deſire by the firſt, of reaſonable health, let him not take a ſecond, and if by a ſecond, not a third. *Of two or three times taking, if the diſeaſe require.*

When

When any perſon, deſirous to take the benefit of the aforeſaid medicine, having an Ague, or Feavour, with paroxiſmes or fits, let him not take the medicine in the time of the fit, but one full hower before the fit, and rather more, but if the Feaver be continuall, give it at any time in manner aforeſaid, although the patient bee in diſtemper, and burning, for if hee take it, and his burning change into ſweating, which the vertue of this Medicine uſually produceth, the feare of death in the Patient, is halfe over.

And further of a truth I can affirme, that I have cured ſome by this laſt mentioned Antidote, that had the peſtilence, or ſpots of the Plague, vulgarly called Gods Tokens upon them, and are yet living witneſſes.

And whereas our bleſſed Saviour, as appeareth in the Holy Scriptures, by a Parable declareth, that a certaine man gave to ſundry of his ſervants, Talents to trade or occupy with, to one more, to another leſſe, and afterwards (as Hee might juſtly doe) Hee exacted an account from each of them, highly blaming that ſervant who had not profited his Maſter by his Talent, but had hid it in the ground.

Alſo, in another place Hee ſheweth his diſlike of lighting a Candle, and putting it under a buſhell, adviſing us rather to put it on a Candleſticke, that it may give light to others.

And further, wee are commanded not to forget to doe good, and to diſtribute, and that whileſt we have time.

All which precepts, together conſidered, I eſteemed it my duty (as commanded) to imploy my ſhort talent of healing, which God hath lent me, to the utmoſt, for his Glory, and the good of others; and for that reaſon, as in part I have thought fit here following to publiſh by teſtimony, what good the aforeſaid Antidote hath done already, onely in *Weſtminſter*, and *Northampton*, not accounting at all whom without teſtimony it hath healed, which hath bin very many, more then by teſtimony is fitting for me to produce.

* *
*

The

The Epilogue, or Concluſive part of this *Treatiſe: Wherein the Author relateth, of* his owne ſufficient experience, yet one *Antidote* more, for the whole Cure of the *Plague*; being a Cordiall Pouder made of Gold, and by him called *Aurum Vitæ*; whereon, *by Gods mercie, the Patient may relie, as upon a ſafe Antidote.*

A Cordiall Antidote, called *Aurum vitæ.*

THis Medicine, at one onely time given, taketh away the Peſtilentiall Feaver, and thereby cureth the Plague, that the Patient is oftentimes well the next day, it being given upon the firſt day of the Patients complaint, with the obſervation of certaine eaſie rules hereafter preſcribed, concerning the order of adminiſtring thereof, and it is an eaſie and ſafe Medicine, inſomuch, that any infant, although it ſucke upon the Mothers breaſts, may ſafely take it, yea, and eaſily may be induced to receive it into the body, for that it is of a very ſmall Doſe, and is without any offence in taſte or ſmell to any: alſo, it may ſafely be given to any woman that is great with childe, whereof diverſe tryals have beene had, with ſafetie and comfort.

The Doſe or quantitie ſufficient thereof for a man or woman to take at any one time, is but eight Graines; and by that proportion, any diſcreet perſon may gather what may be given to any younger perſon: *viz.* A childe of two full yeeres old, may ſafely take two Graines; and a childe at foure or five yeeres old, may take three Graines; and one about eight yeeres old, may take foure Graines; one of foureteene yeeres, or thereabouts, may take ſix Graines; and one of eighteene, nineteene, twentie yeeres old, or more, may ſafely take the full of eight Graines. *The Doſe of Aurum vitæ.*

And note, that this Medicine performeth its operation onely by Sweat, which is the trueſt and ſafeſt way of the entrance upon that Cure (for the moſt part) and alſo it doth it without any mooving the body either upwards or downewards; namely, it cauſeth no Vomits nor Stooles, neither is it at all nauſeous to the ſtomach, nor any wayes cauſing extraordinarie thirſt nor faintneſſe, as ſome, yea, and moſt of other Minerall Diaphoreticks doe: But, on the contrarie, the Patient, when his ſweating is over, ſhall manifeſtly feele cheerefulneſſe, as being much refreſhed thereby, with alſo an abatement of his paines, and his Feaver will utterly be gone at the onely once taking thereof. *The effects of it.*

The order in administring of Aurum vitæ.

Neither ſhall the Patient need to be over-burthened with too many Clothes, to force him or her to ſweat, for the Medicine of it ſelfe ſufficiently performeth that dutie; onely he may be ordered to have ſomewhat more to cover him, then the ordinarie Coverings he uſually lyeth under; and the Roome likewiſe ought to be kept very warme, with a good fire therein, for that cold ayre in time of ſweating is obnoxious and dangerous.

Of the continuance of its vertue.

And further, this Medicine may be kept ſeven whole yeeres, and longer, if need be; for it being truly prepared of Gold, is permanent above other Medicines, and it loſeth not his vertue as vegetable Medicines doe: but as Gold, that moſt excellent Minerall, excelleth all other Minerals in price and true value; even ſo doth the truely prepared Medicines thereof as farre exceed all other Minerall Medicines in their vertues, as well in the preſerving and defending mans body from diſeaſes, as alſo in curing their infirmities, when by Gods permiſſion they ſeize upon the bodies of men.

And whereas other Minerall Diaphoreticks commonly worke two wayes at once, namely, both by Sweat, and alſo by Vomit, whereby they fiercely diſtract the Patient, and produce fearefull ſymptomes, as if Death in ſelfe were at hand, by the oppreſſing Nature in too violent expulſions at one time; yea, oftentimes by a third, *viz.* by purging alſo downeward. But this moſt truely ſafe and eaſie ſweating Medicine performeth as much as it promiſeth pleaſantly, and without rigour, or nauſeous offence, as well in the Plague, as alſo in other contagious diſeaſes, where Nature ſtriveth to thruſt out her venemous enemie *per poras cutis*, or by the ſweatholes; and that courſe of curing, is of all other the ſafeſt, in a contagious diſeaſe, at the firſt entrance, which then conſiſteth rather of poyſonous vapours, then of putrifaction of humours; in which regard, the aforeſaid courſe is ſafeſt: for it is a fearefull courſe, yea, and a deſperate one, to purge in the beginning of this moſt contagious diſeaſe.

Witneſſe Hippocrates, Lib. 2. Aphor. 1. Quo natura vergit ad loca conferentia eo ducere oportet.

For Agues or Feavers that are contagious.

This Medicine is alſo approoved good to be given in the beginning of any contagious Ague or Feavor, hot or cold; and for the moſt part, it cureth it at once giving, whether it appeare to be Tertian, Quartane, Quotidian, or intermittent Ague.

The courſe to be held in the taking of this Antidote.

FIrſt, the Patient is to be demanded, if hee had any ſtoole that day, or the day before; and if yea, all is well; if otherwiſe, let him have onely a Suppoſitorie, that may moove him once: and when hee hath had one ſtoole thereby, proceed without any delay to the adminiſtring of the Antidote, for delayes are dangerous. Wherefore, without any further protraction of time, goe on to take the Antidote.

Nam mora trahit periculum.

And

THE COPY OF A CERTIFICATE,

Concerning the Vertue of the laſt precedent Antidote, called *Aurum vitæ*; from the Iuſtices, Miniſter, and other the Officers of the Pariſh of S. *Margarets* Weſtminſter, *as it was by them preſented to the Right Honorable*, Henry *Earle of* Mancheſter, *L. Privy Seale, &c. which by his Lordſhip was preſented to the reſt of the Lords of his Majeſties moſt Honorable Privy Councell,*

WEe the inhabitants of the Pariſh of S. *Margarets* in Weſtminſter, whoſe names are here under written, doe moſt humbly certifie your Lordſhips, and that upon our owne knowledge, that in this time of viſitation of the PLAGUE, Feavers, Agues, and other diſeaſes, which have beene very grievous and great afflictions unto us: It pleaſed Almighty God, by the hands of one *John Woodall*, Chirurgion of the Eaſt-*India* Company, and of his Majeſties Hoſpitall of Saint *Bartholomewes*, in *London*, a learned, judiciall, and expert man, which ſaid *Iohn Woodall*, about five weekes before *Michaelmas* laſt, delivered unto ſome of us, who were Officers in this ſaid Pariſh, an Antidote compoſed in Pills, which hee had made up, with direction how they ſhould be adminiſtred to ſuch as had the Plague, Feavers, Agues, or any ſuch violent diſeaſes, that then remained amongſt us; which ſaid Pills have beene imployed very carefully, according to his ſaid directions, and adminiſtred to threeſcore ſeverall perſons, ſome of this new Feavour, ſome of the ſmall Poxe, ſome Agues, and ſome other Diſeaſes, but moſt to them that were viſited with the PLAGUE, which had Riſings, Soares, Carbuncles, Blaines, and were cer-

certainely knowne to have that fearefull diſeaſe, all which Perſons recovered, and not one of all them that hath taken the ſaid Pills, dyed (thankes be given to Almighty God) neither can we doe leſſe, then publiſh the great skill, judgement, and charity of the ſaid *Iohn Woodall*, by whoſe induſtry and care, this Antidote hath wrought ſo good effect, and did beſtow them freely, without one penny of recompence for the ſame.

Weſtminſter, the 6 of Octob. 1638. *Pet. Heywood.*

Robert White, ſub-Curate.

Thomas Mar. } *Church-wardens.*
Richard Prouter. }

Copia Vera. *William Hawkins.* *Tho. Kirke.* *Edward Martin.*

A COPY OF A CERTIFICATE, from the Mayor and Iuſtices of *Northampton*, with a further Reference to the *Report of one M.* Wyly, *an experienced Surgeon of the ſaid Towne.*

WEe the Mayor and Iuſtices within the ſaid Towne of *Northampton*, in the Countie of *Northampton*, whoſe names are here under written, doe hereby certifie, that upon due examination and inquirie taken within this Libertie, wee doe finde, that in the late Viſitation of the PLAGUE, Feavers, Agues, and other Diſeaſes, which have beene very grievous and heavie unto us: It pleaſed Almightie God, by the hands of one *John Woodall*, Chirurgion of the Eaſt-*India* Companie, and of his Majeſties Hoſpitall of Saint *Bartholomewes* in *London*, a learned, judiciall, and expert man, beſides others: Which ſaid *Iohn Woodall* ſent in Summer laſt to one *William Wyly*, a Chirurgion in *Northampton*, an Antidote compoſed in Pills, which he had made up, with directions in Print how they ſhould be adminiſtred to ſuch as had the Plague, Feavers, Agues, or any ſuch violent diſeaſes, that then were violent in this Libertie; which ſaid Pills were imployed to diverſe perſons very carefully, according to his directions, as wee finde, and adminiſtred; and that by meanes thereof diverſe recovered, and none of them dyed (thankes be to God) there: As by a Note of ſome particulars, under the hand of the ſaid *William Wyly* may appeare. In teſtimonie whereof, wee have hereunto ſet our hands and ſeales this three and twentieth day of *Ianuary*, 1638. *Villa Northampton.*

Richard Fowler, Mayor. *William Eollis.* *Francis Fiſher,*

The Copie of a Report of one M. WYLY, a Surgeon of *Northampton*, concerning *the former Certificate.*

GOOD SIR,

WHereas about the beginning of *Iuly* laſt, when our Towne of *Northampton* was much viſited with the Sickneſſe, you ſent me a Cordiall Pouder, of eight Graines to the Doſe, for the Cure of the Plague, deſiring from me an account of the operation thereof; I thought fit to ſignifie unto you, that I have found it exceeding good for the ſaid Diſeaſe, farre above my expectation, having adminiſtred the ſaid Pouder to the parties hereunder named, and diverſe others, too long to recite.

And firſt, I gave it to one *Symonds* ſonne, a Plummer, who was dangerouſly ſicke of the Plague, and by once taking of that Pouder, was perfectly cured.

His Mother preſently after falling ſicke of the Plague, and in great danger, was cured by taking it twice.

Likewiſe to one *Brownes* daughter, her Father and Mother being dead of the Plague, and ſhe her ſelfe dangerouſly ſicke, and prayed for in the Church, who by once taking of it was perfectly cured.

Alſo one Widow *Allets* Maid, her daughter being dead before of the Plague, and the Maid dangerouſly ſicke, by the taking of one Pill was cured and well the very next day.

Alſo I gave one Pill to a Boy of *Iames Fairnes*, and it cured him.

Likewiſe, I gave one Pill to one Good-Wife *Iackſon*, a very old woman, and ſhe was cured therewith.

Likewiſe, to one *Brownes* Wife I gave a Pill, and ſhe was cured therewith.

Likewiſe,

Likewiſe, to a Child of one *Taubots* I gave a Pill, and he was cured therewith.

Likewiſe, I gave a Pill to one Miſtris *Huickſmans* daughter, and ſhe was well cured thereby.

And to a Maid of M. *Hills*, who had a putrid Feavour, and was cured thereby.

Likewiſe, to one Miſtris *Coopers* ſonne I gave one Pill, who was cured of the Plague thereby the very next day.

Likewiſe, to M. *Smiths* daughter, being very ſicke of the Plague twice, and was twice made well the next day following.

Likewiſe, to one *Spooners* daughter, being ſicke of the Plague, and ſhe was made well the next day.

And to a Child of one *Packwoods* I gave a Pill, being ſicke of a putrid Feavour, who voided Wormes of above halfe a yard long, and was cured.

To one *Goody Smith*, a Maulſters Wife, I gave two Pills, ſhe being very ſick of the Plague; by the firſt, ſhe had a Swelling appeared; and the next day I gave her another of the ſame Pills, which provoked her againe to ſweat, whereupon the Swelling vaniſht away, and ſhe became thereby perfectly cured.

I could recite diverſe other Cures in like manner by your Powder performed, but for troubling you with tedious repetitions: Wherefore I will thus conclude in the commendations thereof, that I adminiſtred it unto many, and of all thoſe I gave it unto, that either had the Plague, or any contagious or putrid Feavours, it cured them, and none that tooke it dyed under my Cure.

Yours to be commanded,

WILLIAM WYLY.

To the Reader.

IF the Reader perhaps, as by a former promiſe in part made at the firſt Edition of my SURGEONS MATE, *doe expect a deſcription of every the Cordials, Antidotes, and other the Compoſitions in the former, and alſo in this his laſt Edition mentioned; the Author deſires to be excuſed for his omiſſion therein, for that ſince that firſt Edition there hath beene, by Authoritie of his Majeſtie, a publike Diſpenſatorie put forth, called* PHARMACOPEIA LONDINENSIS, *containing all ſuch Medicines as the learned Doctors of the Colledge have ſelected, as fitteſt for their practiſes in* London: *in which learned worke, moſt of the Medicines by me in this Treatiſe mentioned, are to be found very truely and exactly ſet downe the Compoſitions of them; to which, hee is now as neceſſitated, forced to referre the Reader: and yet in this Treatiſe the Author hath preſumed to explaine diverſe good Receipts. But the Worke being on the ſudden to ſay* (aut nunc aut nunquam) *haſted to the Preſſe, there could be no alteration admitted, neither time for addition. But neverthelеſſe, for the preſcribed Antidote, called* Aurum Vitæ, *the Author will be readie, whileſt God permits him life, and as alſo he hopeth that his Poſteritie after him will not faile to prepare and have readie the ſaid Antidote, for any perſon that ſhall pleaſe to make uſe of it, readie prepared, put up, and ſealed, at ſuch reaſonable rates, as no private man can affoord to make it ſo cheape, although he knew the worke: and ſo he taketh leave, committing the Benevolent Reader to Gods protection.*

From his Houſe in Broadſtreet, London, *at the time of the firſt Edition hereof,*

JOHN WOODALL, Maſter in Surgerie.

FINIS.

A TREATISE OF GANGRENA, AND SPHACELOS:

BVT CHIEFELY FOR THE Amputating or Diſmembring of any Member in the mortified part.

Againſt the Doctrine of the moſt ancient Writers, being approoved, ſafe, and good.

According to the long Practice and Experience of IOHN WOODALL, Maſter in SURGERY,

Surgeon of his MAIESTIES Hoſpitall of S^t *Bartholomewes*, and Surgeon Generall to the *Eaſt-India* Company:

But under benedicite *(namely) as imploring and aſcribing all the* Honour and Praiſe unto GOD alone, for his favour and mercyes, touching the ſalubrious effects thereof.

LONDON,
Printed by *E. P.* for *Nicholas Bourne*. 1639.

A

TREATISE

OF

GANGRENA,

AND

SPHACELOS:

BUT CHIEFLY FOR THE

Amputating or Dismembring of any

Member in the mortified part.

Collected out of the Works of the most ancient Writers,

being approved, safe, and good.

According to the long Practice and Experience

of JOHN WOODALL, Master

in Surgery,

Surgeon of his Majesties Hospitall of Bridewell,

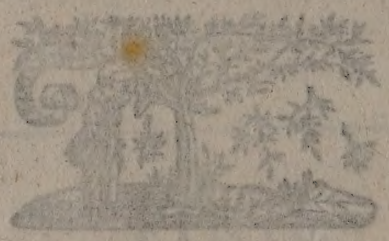
and Surgeon General to the Army

of

Honour and Praise unto God alone, for his favour

and mercies, resulting to the salvation

thereof.



LONDON,

Printed by E. P. for Nicholas Bourn, 1639.

A PREFACE, TOUCHING THE DEFINITION OF GANGRENA.

COurteous Reader, *having in part ingaged my ſelfe by promiſe to my good Friends, before the Edition of this my worke, to explaine to the World, amongſt other parts of Surgery, the manner of Amputating or cutting off, of putrid members, in the mortified part: I after conſidered with my ſelf, that I could not properly proceed therein, except by the defining of a* Gangrene, *in the firſt place, becauſe a* Gangrene *is ever the forerunner of a* Sphacelus, *and the materiall cauſe of Amputation, either in the generall body of Man, or in any the particular parts thereof, and from the which, no Animall creature, no not Man himſelfe can decline from.*

A

Ab initio ſtatutum eſt omnibus ſemel mori.

For from the beginning, all men are conſtituted once to dye, and yet there is an interim for each man, of not being in health, neither really dead, but quaſi moriens, vel ſemi mortuus, *dying or half-dying. In the which interim, or intermiſſion of time, a man may by an accident be ſaid to bee in ſuch a diſtemper, as he may be gangrenated, or in a* Gangrena, *as the Artiſt tearmes it, either in*

part,

part, or in all, and yet by the permission of God, and by the helpe of Art, that supposed dying man, or member of man, may receive cure, and bee healed againe, although in mans judgement, not well versed in the mystery of healing, he be supposed to be at the gates of death: Even so a Gangrene, *presaging a* Sphacelus, *may in some cases be cured, as daily experience sheweth, that diverse* Gangrenes *receive cure; so that to conclude, a man that hath a* Gangrene, *in one or more parts of his body, untill it bee taken away, that man is ever as it were, under the Shadow of Death.*

Nam Mors sequitur ut umbra.

Death attendeth us as our shadow.

Thus much briefely, by way of Preface, touching the Gangrene.

A TREATISE OF GANGRENA.

A Definition of a GANGRENE, *and the several causes thereof.*

A *Gangrene* in his progresse, may justly be tearmed an effect destroying nature, and therefore against nature; it is a disease wofull, painefull, horrible, and fearefull to man-kind, and justly so, for that it often endeth in *Sphacelus*, which is the destruction of the part affected, if not of the whole body.

The causes thereof are infinite for number, but to speake in briefe, in one generall tearme for all, how the disease commeth first to invade mans body, it ever proceedeth *ex intemperie*, which is of distemper, ever by force invading nature, this *intemperies* or distemper, may be said generally two wayes to be taken, either, *Causes.*

Externally, or *Internally*.

It may be tearmed externall, or from without, as wel when it proceedeth by externall violence of the ayre, by Thunder and lightning or otherwise, by the mighty and immediate hand of God, as it doth to many, or by feavers violent, contagious or pestilentiall, as *Anthrace*, the small Pox or the like, whose secret causes with the reasons thereof, are hidden in God, and therefore by mans wisedome, are not to be found out, although some affirme, the Conjunction or Opposition of the Planets have power or give cause hereunto, according to the Poet, *Astra regunt homines, sed regit Astra Deus*. The starres governe mans body, and God governeth the starres, or it proceedeth of outward violence, namely sometime by mans hand, his *Externally.*

intention or invention as by great wounds; wherof great hemorrage, and ſo as by a juſt conſequent a *Gangrene* followeth, as alſo by a violent contuſion given, either by violence of weapons, as by wonnds made by Gun-ſhot, Swords, Speares, knives, &c. and oftentimes by obſtructions in the blood, ſometimes cauſed by ſtripes, &c. whereby fractures of bones, diſtortions of joynts, contuſions, inflammations, Convulſions, great & ſuddaine fears, and other diſtempers proceed, among which great accidents, *Gangrena* is to be feared will be one, and not the leaſt, although it may be called one of the laſt, and it may alſo happen by the fall of a houſe, a tree, any weighty thing, yea, by a tyle, a ſtone, by the bite of any venemous Beaſt, yea of a Dog, and innumerable other accidents, according to Gods ſecret appointment or permiſſion,

Nam accidit in punctо quod non reparatur in anno.

That may happen in a moment, that cannot be repaired in a yeare. And further a diſtēper may fall out to be a diſeaſe of the ſimilar parts, deprived of their naturall & proper temperament, this deprivation is cauſed 2 wayes, either by a ſimple diſtemper, by reaſon of the exceſſe of one quality, *viz.* of heat, cold, dry, or moiſture, or by a compound diſtemper, by reaſon of the extuberance or over-bearing of the two qualities together, hot and moiſt, hot & dry, cold and moiſt, and cold & dry, againe a diſtemper is either a fault of the meere quality alone, *viz.* an inflammation, or it hath an adjunct fault of the humours, as a Phlegmon; againe many times a *Gangrene* proceedeth from a ſurfeit, or a diſtemper of fulneſſe, or inanition, which may proceed by ſtarving, or *receſſus* of dew nutriment to ſatisfie nature.

1 *What a diſtemper is.* *Simple diſtemper.* *Compound diſtemper.* Phlogoſis. Phlegmon. *Intemperies.*

A ſecond definition of a Gangrene.

Second definition of the Gangrene. A *Gangrene* is a beginning of putrifaction, being a dreadful Symptome of a diſeaſe in any member of the body, and ſheweth it ſelfe for the moſt part by inflammation with great dolour, the grieved part often appearing of a ſad dusky reddiſh colour or livid, though not alwayes, and being for the moſt part tumified or ſwollen, the paine being to the judgement of the patient ſo intollerable, as if there were a firecoale burning therin, or the like in effect. And for that reaſon the *Germaine* writers call this by the violent heat of the diſeaſe the *Heisbrant*, or the hot burning coale, for in truth a *Gangrene* is of a burning, ſuddaine, fierce, deſtroying nature, and therefore againſt nature, being a diſeaſe dreadfull to man kind, as is ſaid, & juſtly ſo, for that it menaceth to the part affected, if not to the whole body eminent deſtruction, yea death it ſelfe, except ſpeedy remedy by Gods mercy be at hand.

How to know it.

The cauſes of Gangrene. The cauſes of this diſeaſe as aforeſaid are many, for number whereof I will ſet downe but part, *viz.* It may proceed either from great hemorrage mentioned, that is exceeding effuſion of blood and ſpirits, or by a diſtemper of the foure humors, proceding either by

Repletion

{ Repletion or Inanition, }

Or by the extreme eroſion or corroſion of cauſticke medicines or corroſive humours. By imbecillity of nature, as by weakeneſſe of infants and old age, by a venemous and poyſoned in the blood, as in contagious times, and namely when the ſmall Pox or Plague raigneth, cauſing ſodaine putrifaction of humours: alſo it may proceed by great burnings and ſcaldings, by over-much hunger and thirſt, by the pricking of a nerve or of nerves, by a Feaver precedent, by a froſt, and alſo by extreme cold; by the bitings of venemous Beaſts, or Wormes, or mad Dogs; by want of good concoction of humours, by obſtructions of, or from any the principall members of the body, as the Heart, Braine or Liver, cauſing Convulſions, Palſies, Dropſies, Scorbutes or the like, which ofttimes termine in *Gangrena*, and after a further time they conclude in *Sphacelus*.

Small Pox or Plague may produce Gangrena's.

Alſo *Gangrenes* proceed by great inciſed wounds, and namely, amongſt other wounds, contuſed wounds, chiefely I meane thoſe of Gun-ſhot, alſo ſometimes by fractures and diſlocations, alſo by Fiſtulaes and inveterate Ulcers, by unreaſonable ſtripes, as with a Bulls Piſſle, or a thong cut from an Elephants skinne, much uſed for correction in *Poland*, *Hungary*, and the Turkiſh Dominions, finally from all interceptions, interſections or interruptions of ſpirits, what, or whereſoever may produce a *Gangrena*.

De Grangrena, *A third definition gathered from learned Authors.*

The third Definition of Gangrene.

A *Gangrene* is a partiall mortification of a member, commonly by reaſon of a Phlegmon, it may be ſaid to be partiall in that the part affected, ſo long as the member is not throughly dead, but hath in it ſelfe ſtill a ſenſe and feeling of paine, and therefore not altogether deſperate, although yet it be tending to mortification, and ſo unleſſe there be ſome ſuddaine helpe in the ſtaying thereof, it will ſoone turne to a totall and perfect mortification, after which it may no more be tearmed a *Gangrene*, but is called of the Græcians (*Sphacelus*) παρὰ τὸ Σφάττειν, becauſe of the extinction of the naturall heat therein, and of the Latines it is called (*Syderatio*) a totall and perfect putrefaction, and more-over of the latter writers (*Eſthiomenon*) in that it is ſo ſuddaine piercing and penetrating unto the bone, and doth as it were overcome the whole man, ſo as againe it may be concluded, that the difference betweene a *Gangrene* and *Sphacelus*, as is ſaid, is, a *Gangrene* is truely tearmed an unperfect mortification in the fleſhly parts onely, but *Sphacelus* is a perfect and totall privation of ſenſe, being a mortification,

Sphacelus.

Syderatio.

Eſthiomenon.

Dif. in Gang. & Sphacel.

not onely of the fleshy parts, but also of the nervous parts, even unto the very bone, yea, and of the bone it selfe also. The causes of a *Gangrene* by some learned Writers are reduced to three; The first, is when as a member cannot receive the vitall spirits proper or naturall due to it from the heart by the Arteries, by reason of a dissolution in the mixture or harmony of the member, caused externally by extreame frigidity, as sometimes it chanceth to be in a very cold and sharp winter, also by the inconsiderate and too too immoderate and rash refrigeration of a Phlegmon, as also extreme calidity, as by scalding liquor, or through some poysonous disposition in nature, invested in the parts affected, all or any of which doe or may sufficiently extinguish the naturall heat thereof; if wholesome remedies in time be not applyed, a *Gangrene* may justly be expected to follow.

Cause Gangr. 1

2 Another cause is, when as the vitall spirits in any member are obstructed, suffocated, and finally extinguished, by reason of some obdurate, schirrous hardnesse and constipation of the veines, arteries or pores of the skinne, as in venemous or pestilentiall Apostumes or Carbuncles is often seene, so that little or none of the venemous matter conteined in the Apostume or venemous tumour, can be digested or receive discussion, nor be brought to suppuration by apt medicines, whereby Nature being above her strength oppressed, and Art not sufficiently succouring, a *Gangrene* is produced.

Another cause may be by extreame strong ligature, through the indiscretion of unworthily tearmed Artists, or of unexpert Artists, too often is manifest, and sometimes by compressions, or other interceptions of blood or spirits, by which the vitall spirits should be transported to the member grieved.

Signe of Gangr. The signes of a *Gangrene*, are these; an extinction of the lively colour which was in the precedent Phlegmon, grievous paine and continuall pulsation in the diseased part, apparent by the Arteries, being at the first very sensible, but afterwards declining their due force, the part agrieved seeming for the most part, in colour to be blackish, blewish, or of a duskie or livid colour, yea, sometime putred, and being opened, a filthy Ichor and of an unsavoury smell proceeding from it, thus much of the signes.

Of the Cure of Gangrena.

Cure. 1. 2. 3. TO the performance of the cure of this disease, there must be first a due consideration had of the cause. Secondly, of the part affected. Thirdly, of the fitting apt remedies for the Cure, and how to proceede in the curing that disease, and of the Symptomes

Symptomes thereof; and laſtly, of the remooving the cauſe, which if that may be effected, health doubtleſſe will follow, according to that *Axiome* of the Philoſopher, *Ablata cauſa, tollitur effectus*, but that muſt be expected in his due time, in which there muſt be firſt conſidered, whether the diſeaſe proceed of repletion, and if ſo, then a generall evacuation with a cooling and ſpare dyet muſt be preſcribed the patient: *Viz.* Water, with the milke of Almonds, and thin broths with cooling hearbs, as *Lactuſia, Spinachia, Portulaca, Sorrell*, or the like, as alſo adviſing with the learned Phyſician, where time and place ſerveth: Barly waters alſo are good, and the ſicke muſt be forbidden all wine and ſtrong drinke, and muſt be contented with poſſet drinke, Barly water and ſmall Beere: it were alſo fitting that there were preſcribed to the patient ſome preparative medicaments, as theſe, *Sirrup. Acetos, Simp. Sirrup. Endiviæ, Sirrup. Citri. Violar.* any of theſe mixed with waters as may be convenient in ſuch a diſeaſe, and after theſe preparatives, may be uſed ſuch purgatives as may purge and cleanſe the blood, *viz. Confect. Hamech. Carta coſtirum, Diacatholicon, Caſſia fiſtula*, or ſome one of them, being according to Art performed.

4.

What to be conſidered in the cure of a Gangrene.

Diet to be uſed for a Gangrene.

Preparatives neceſſary.

And if you perceive further occaſion, you may reiterate the uſe of any of them, and further you may not omit the uſe of Phlebotomy, ſcarrification and application of ventoſes, Leeches or Veſicatories upon or nigh the part affected, and according to the patient his ſtrength, let him blood moderatly: and obſerve, that in ſcarrification regard is to be had, concerning the gangrenated part, whether it penetrate or be ſuperficiall, and ſo accordingly is ſcarrification to be uſed: as for the application of Leeches, it may be done upon any part thereto adjoyning, or upon the part affected it ſelfe: and further, note, that if a *Gangrene* follow a contuſion, for the moſt part it proceeds either by the vehemency of the contuſion, whereby eruption of the capillar veynes, yea, and the larger veynes alſo, blood is forced into the Muskles confuſedly, as by the *Ecchymoſis* may appeare of the evill diſpoſition of the patient, or it may alſo proceed for want of a Surgion to apply fit and artificiall applications in due time: not ſeldome, under favour, by over-hard ligature.

Phlebotomie uſefull.

But if the *Gangrene* appeare to have proceeded by inanition, that caſe is pitifull, and the cure very doubtfull, but nevertheleſſe where it ſo falleth out, all nutritive and comfortative remedies are to be appointed, as namely, if it proceed of cold either in froſt, or by want of due and ſufficient food, conſideration is to be had by adding warmth of food and rayment, with cordiall and comfortive remedies: alſo the Artiſt muſt truly informe himſelfe, whether this diſeaſe be a *Gangrene* or a *Sphacelus*, whether a partiall or a totall privation and mortification, with the utter loſſe of the ſenſe of the fleſhie and nervous parts, and if he find ſenſe in the parts, there is life and hope.

Rules to be obſerved if the Gangrene is cauſed by venemous diſeaſes.

But ſuppoſe a *Gangrene* proceeds of a venemous cauſe, as many times

times it doth, and namely, in time of contagion, as of Carbuncles in the Plague, the ſmall Pox, or by other malignant Feavers, when as the Artiſt may neither purge his patient nor open a veyne ſafely, but with feare, except he may be well warranted, either by good and grave adviſe of the expert where ſuch may be had, in want of which, the Artiſt ought to ſearch by authority of the moſt antient Writers, that he can come at, for the avoyding the eminent danger of death, to inſue upon his patient, and to goe warily in the want of better adviſe. *viz.* If the griefe proceeed of fulneſſe, which ſeldome it doth at Sea, or in Campes, then his firſt rule in Art muſt be, as is ſaid, that a thin dyet and cooling be preſcribed his patient, and that he be admitted no wine nor ſtrong drinke; alſo that he may be appointed ſome cooling Julep to be made him, namely, if the patient be in Ship or Camp, hee is there confined and conſtrained to the Surgeons Cheſt, and then let the Surgeon examine his proviſions, and if hee find he have any cooling waters and Sirrups fitting thereunto, he may proceed to take as followeth.

What to be obſerved if it be cauſed by fulnes.

A receit to be adminiſtred to the Gangrenated.

R. Aq. Lactuc, Acetoſ. Endiviæ, Buglos, Borag. Frag. Plantag. Lujule. or ſome one or more of the moſt fitting afore-ſaid waters, *viz,*

The doſe of it.

R. Aq. Lujulæ 2 *l. Sirr. Limon. vel Violar.* ℥*ij. Ol. Vitriol. gut.* 12. *Miſce*, give the patient every two or three houres, two or three ſpoonfull hereof, the glaſſe being ever ſhaken when it is powred out, and if hee hath not beene at ſtoole that day in which hee is to take the Julep, you may give him a Suppoſitory, and having had one ſtoole, give him a *Diaphoreticke, viz. R. Aurum vitæ gr* 8. or *Mithridat.* ℥*j. Elect. de Ouo,* ϑ*j. Confect. Alcherm.* ϑ*ß. Ol. Vitriol. gut.* 4. in *Aq. Borag. Lujulæ Acetoſ. vel Buglos. viz.* of any one of theſe ℥4. with *ſir. Limon. Citri. Lujulæ. Violar.* or ſome of them *Miſce, fiat hauſtus*, give it the patient being laid warme in bed, and cover him warme and provoke him to ſweet gently, and as you find his ſtrength continue his ſweating for an houre, two houres or more; which done, keepe him in a moyſture one other houre at the leaſt, which ended, let him coole and dry *paulatim*, and warily, and having ſo done and refreſhed himſelfe, till foure or five houres ended, then you may, if you ſee cauſe, give him the like Cordiall againe, and proceed againe as before, to ſweat him the ſecond time, and give him 8. graines of *Aurum vitæ* for a *Diaphoreticke*, which done, you may then admit him reſt and reſpite againe for a fitting time, wherein you may adviſe what further is requiſite to be done, in which time, not omitting in any caſe, both before his laying downe to ſweat and after, as alſo betwixt his ſweating, ever to apply all fitting topicall helpes, *viz.* by ſcarifications and hot fomentations of ſome good *lixivium*, ſuch as after the taking off members in the mortified place, hereafter are deſcribed. Thus much in briefe of the *Gangrena.*

The receit of a Diaphoreticke.

The order of the applying of it.

Of

A Definition of Sphacelus *and the cure thereof from some antient Writers, to shew the Reader their opinions and judgements thereof, for that some Artists have grounded their judgements, that their relations are according to good practise, and therefore are to be imitated.*

A *Sphacelus*, saith *Falopius*, and likewise *Fabricius*, is an affect of a part already utterly mortified, and therefore not to be cured but by amputation, that the whole body come not to corruption thereby, and this abscission is not done without great danger of death, for often, even in the instant act of amputation, the patient dyeth by the profusion of blood and spirits, wherefore the strength of the sicke is to be considered; and *Cornelius Celsus* alledgeth, Cap. 25. lib. 5. that in his time they used to take of the *Sphacelated* member, by cutting the flesh round about unto the bone, in the whole part, nere the rotten or sphacelated part, & cutting ever in the live flesh, not leaving any of the mortified flesh untaken away, further (*Celsus*) say they, doth admonish us in this worke, that the skinne and also the flesh, be brought and drawne upwards, that the bone may be the better covered by some of the said part, in the healing of the stump; but the same Author confesseth also, that by such abscission causing exceeding paine, with over-large effusion of blood and spirits, death usually followeth, therfore to avoid hemorrage, they must presently use actuall Cauteries to burne the parts adjacent, in which may be conjectured, how cruell that course is to the patient and uncomfortable; and prepare the upper part thicke enough, to be a firme cover to the vessels.

Extremum genus morbi requirit extrema remedia.

The opinion of Celsus *concerning Sphacelus.*

Another way of amputation.

But after himselfe not approoving that course, he saith, that hee tooke another way of curing, which as he said, happily succeeded by which worke no profusion of blood hapned, because no blood floweth from a mortified part, neither is griefe mooved therein, but least the corruption should spread it selfe further, (saith the said Author) I burned the putrified part, remaining every where with red hot Irons, that were heavy and well burnt, untill the patient did feele the heat of the fire, and that he suffered some small paine, and the rather they did it, they write, because the same operation is very profitable, and therefore burned ever some of the sound flesh also, because the putrifaction is best to be drawne out by a red hot Iron, as I suppose saith he, which is apparent to the eye for the

the humours are apparently ſeene to boyle about the Iron, and likewiſe the weakeneſſe of the parts conſidered by burning, it is fortified, the adjacent parts being freed from many noxious humours thereby, ſo that the weake part receiveth ſtrength, and within a few dayes begins to ſeparate the living from the dead part, and ſo afterwards the dead part falls off, and the living part is conſerved. And this manner in my judgement, ſaith *Fabritius*, is beſt; but this Author conceiveth *Fabritius* to be but a relater, not a true practiſer of the aforſaid courſe in amputation, for that that worke is ſo terrible and cruell nevertheleſſe. In this recited Chapter you have the opinions of ſome of the antient and learned writers touching *Sphacelated* members and the manner of the amputation of thoſe times, ſince which the Art hath beene by Gods favour, very much illuſtrated, ſo that where the complaint formerly was, that by reaſon of great hemorrage, namely, the large effuſion of blood and ſpirits in the worke of their amputations, many of their patients periſhed under the Surgeons hands in the very act of amputation, I may to Gods glory, and ſo juſtly doe I affirme for a truth, that for the ſpace of nere 24. yeares I have been a Surgeon in the Hoſpitall of Saint *Bartholomewes*, where I have taken off, and holpen to take off many more then one hundred of legges and armes, beſides very many hands, and fingers, amongſt all which, not one of them all hath dyed in the time of their diſmembring nor afterwards, through the exceeding effuſion of blood, in the operation that ever I could gather or conceive, and further-more, I affirme that not above foure of each twenty diſmembred, but lived to have beene healed, and have beene delivered whole out of the Hoſpitall, notwithſtanding whatſoever their diſeaſes have beene, and for that horrid cruell courſe mentioned by the aforeſaid recited antients, of burning the ends of the ſtumps in the tender living and moſt ſenſible parts, ſince I have knowne the Art of Surgery, which hath beene by the ſpace of 50 yeares, that I have uſed it, I never ſaw it uſed by any in *England*, nor elſe-where, and yet I will not deny but the beſt Artiſt that is in the firſt worke of amputation, or in the ſecond dreſſing of the patient after amputation, may be ſo put to it, that if he provide not himſelfe of a cauteriſing button, hee may heartily wiſh, hee had had a ſmall button ready, for feare of the loſſe of his patient, upon an unexpected flux, and howſoever, it is a good Art and ſafe to my knowledge, both for the patient and Surgeon, and but fitting for him, ſo to be provided for feare of need; onely I adviſe it to be privately abſconded for the reputation ſake. Thus much of the manner of amputation from the Antients. This precedent Definition I have taken out of ſome of the antient Authors, from their owne words verbatim, that the Reader may conſider how farre it differeth from the ſcope hereafter to be handled.

The way of amputation made better by experience.

An

An introduction to amputation, but chiefly *for the mortified place.*

LOving Reader, the generall opinion of the most ancient, as also of the moderne writers, yea, and of the best Artists with us, at this present living, as farre as I can gather or conceive is, that the safest and best way for the cure of sphacelated or putrid dead members, is to amputate them in the sound part, and not in the putrid; and their generall reasons are, to prevent that none of the putrid, venemous or gangrenated blood, or spirits should remaine untaken away, for feare it should infect the sound, and so consequently confound the whole masse of the blood and spirits, and to conclude, kill the whole body; but the horrid paine the patient thereby susteineth, with also the great uncertainty of his life, after his extreame sufferings, caused me ever to mislike my owne workes therein, yea although the successe, for the most part, was answerable to my desire.

Ense recidendum est, ne pars sincera trahatur.

And I further confesse, tradition tooke place with me in the Hospitall of S. *Bartholomewes*, in part, where I was, as is said, a Surgeon, for many yeeres, yea, and that in my whole practice there, as also with the rest of the Surgeons, my partners, untill after, reading some ancient Authors, I conceived, that I might in some cases save a mans life, by amputating in the sphacelated part: notwithstanding the generall vote and tenent aforesaid, to the contrary; whereupon by accident, about the yeere 1617, having a fit patient, which had a mortified leg, and was as feeble and weake, as possible a living creature might be, insomuch I was of opinion, upon the first view of him, that Natures thrid was at hand spun out in him, so that it was even sinne and pitty for me to hinder natures course, or to shorten her course, in hasting it with violent Art, and namely by dismembring him in the whole part, who had not blood and spirits in such a case, according to the word, to keepe life and soule together, but by consequent, he must dye in the very act; and therefore I confesse, I intended the patient should dye by nature, rather then to be killed by Art, ever esteeming it a great sin to take away a limbe from any creature, but with some good hope thereby to preserve his life: But againe considering Christian duty, and that I was tyed to doe my best, to preserve life, to the utmost in my power, I conceived there might bee peradventure yet some small hope of life, if I could without paine to the weake patient, or losse of blood, ridde away his rotten member; so I in short concluded to take it off in the dead place, which as all men may conceive, I without paine quickly effected, and by Gods mercy, the next day, I found that my poore patient, after the loathsome stinch of his putrid limbe was removed from him, he began to cheere up, and so after, from day

Frustrà fit per plura, quod fieri potest per pauciora.

to day was refreshed more and more, and nature as it were rejoyced, even as a tree refresheth after the dead bowes are pruned off, so my poore patient grew more and more lusty and cheerefull; and to conclude, in the space of 10 weekes, he was perfectly healed, and being then sound and lusty, gave thanks to the Governour of the Hospitall, in full payment of his cure, and so departed from the Hospitall upon a legge of wood, he then being faire and fat, and very formall; the which blessing of health to the poore man, and light of knowledge, by that experience to me, did put me in mind of my duty in just thankfulnesse to God, and also it animated me further to proceed in the like practice upon many others, which since that time, I have with good successe, to Gods glory, in the same manner well healed; I then also began with my selfe to consider, and as it were to question the reason, why this latter Age of ours, consisting of more pregnant wits then former Ages, and that by good reason their judgements should in Art farre exceed the former, as having had the experience, light, knowledge, and examples from all the precedent Ages; I say, I wondred they should so cleane have lost, or omitted and passed by so worthy a worke of practise as the aforesaid was, it being of such good consequence in a Common-wealth, and to let it dye in oblivion, yea and not onely so, but also to brand it with pittifull inhibitions, and conjectured slanders, and unfeasiblenesse, for I cannot see how any man can justly averre a rule, to bee so punctuall, or so generally absolute, that it may admit no exception, for even this so ancient and great a rule, I hope the Reader will acknowledge is confuted, or anon will fully bee, by apparant practice, and common experience, (as namely) one way, if the Reader doe but call to mind the workes of *Gale*, a late worthy Writer, hee may find that hee affirmes, and by sound arguments well mainteines, that wounds made by Gunshot were not venemous, as diverse antient Writers formerly had affirmed; and if so, how stands it then, that the amputation of sphacelated members, proceeding by Wounds made with Gunshot, not venemous, that the Amputation of such performed in the wounded or mortified parts, should of themselves bee so poysonons or venomous, that the whole body should suffer thereby? but suppose one should affirme it were so, yet the contrary by true, and yet visible practice, is apparent, and to be prooved, yea, and further by good practice, amputation in the mortified part, is experienced to bee good practice in more venemous cases, then in Gunshot: for my selfe dismembred a young man of a legge, in the putrid part, the mortification proceeding by a violent pestilentiall Feaver, which may justly bee deemed venomous, farre beyond a Wound made by Gunshot, yea even venomous in the highest degree, and yet that legge being so taken off, the venomous disposition thereof did cease, and did not offend at all, but the patient was quickly healed, and if the case bee cleared by experience, that the venome from a mortified member, in the Plagne, returneth not to hurt the Body, though such a member bee abscissed in the mortified part, in case of the Plague,

For example.

Plague, how then can it well ſtand, that the aforeſaid generall rule holds true,

Enſe recidenda eſt, ne pars ſincera trahatur.

And yet further I deſire to inſtance to the Reader, a caſe that will, as I conceive, ſatisfie him fully, but if not all men, yet at the leaſt, every underſtanding Artiſt, that mortified fleſh left on upon amputation, or otherwiſe let remaine, without amputating, untill nature being ſtrong of her ſelfe, have caſt it off, doth no way indanger the life of the Patient, no not in the leaſt, and this is very familiarly knowne, and daily almoſt obſerved, or may be obſerved to be, and that it doth not at all prejudice that which is ſound, the which may be often ſeene in poore people, men, women and children, but moſt commonly in poore children, who by *Gangreenes* upon their toes, whole feet, fingers, and hands, yea and on their legges, and armes, proceeding of cold, or by weakeneſſe of nature, where ſuſtenance, dyet, and naturall warmth is wanting, doth no way overthrow the body, for that the ſaid parties of indigent and poore beeing, brought into an Hoſpitall in *London* or elſewhere, where that there is no need of competent food, and warmth, nature of her ſelfe being holpen by the only adminiſtration of food and warmth, with ſmall, or ſometimes no helpe of Art at all, Nature doth of her ſelfe exfoliate, and caſt off the part putrid, from the whole part, by a ſeparation in Nature, without offending or indangering the parts thereunto adjacent at all.

Mortified fleſh not preſently hazarding the life of the patient.

And I my ſelfe may truely ſay, have from more then a hundred perſons, cut off from ſome a legge, yea both the legges, a hand, a foot, a toe or toes, an arme, a finger, &c. of ſuch rotten members, being all diſmembred in the rotten part, of which not one hath dyed in the cure, neither hath the mortification ſpread it ſelfe any further at all, many of which, if occaſion were, I could produce, at this time, of penning this relation, I dare affirme twenty for living witneſſes, and alſo I have had ſometimes old folkes, and young children, which onely by weakeneſſe, and for want of food competent, deficiency in nature, as aforeſaid, their limbes have gangrenated, and ſome of theſe, if no helpe had bin at hand, would have fallen off, yea, and of ſome my ſelfe, have pinched off fingers, and ſawed aſunder the greater bones, when all the fleſh was by nature ſeparated, rotted, and fallen away of it ſelfe, and yet that rotten, ſtincking, or cadaverous part, did no way infect the ſound, otherwiſe then by the ſtincke, and the truth hereof, each Artiſt in practice may not deny, and can fairely witneſſe, then if granted, away with the conjecturall ſuppoſition, that the ſphacelated part hath any property active, or faculty in it ſelfe, to corrupt otherwiſe then each other cadaverous thing, hath namely by his Fetour, in want of being removed, it may noyſomly be offenſive, but not to the heighth, as to kill the patient: And yet I will believe, *per contra*, that neither the one nor the other way of Amputation, no not with all

the art of man can ſave from the grave, by any amputation in ſome caſes, which, although by all men muſt be granted, yet the practice of amputating in the putrid part muſt bee held good: as for example, which I trouble your patience with, about 14 yeeres paſt, there was a Miniſter, named *M. Poſton*, a Reader in the Chappell of *Suttons* Hoſpitall, in *London*, who had a corne upon one of his little toes, that troubled him, he being otherwiſe at that time in perfect health, and himſelfe at evening going to bed, pared the ſaid corne with his penknife, that it bled a little, as he himſelfe ſaid, but within a few houres after, his toe pained him very much, and grew to bee inflamed; in the morning, his foot was wholly diſcoloured, and gangrenated, and the patient, with the violent fierceneſſe of a ſudden Feaver, by the paine then upon him, was wholly diſtracted, and in a *delirium*, which continued till the next day at night, and then hee dyed: and this man was immediately before that accident, a man in perfect health, and of an extraordinary great ſtrength of body, yea, and wanted not the learned advice of the Phyſician; onely he had a full corpulent body, and was a very large feeder; ſo that to ſuch a patient, ſo fiercely viſited, I cannot conceive how any amputation, of what ſort ſoever, could have ſuccoured to have ſaved his life, for that in my opinion, the whole maſſe of the blood and ſpirits, were tainted and ſubjugated by an exceeding feare, before helpe could take place: many other reaſons I have elſewhere inſtanced of impoſſibilities, or unfitneſſe in my judgement to injoyne any Artiſt to obſerve any one particular way, courſe, or order of amputation, for that the occaſions of the *Gangrenes*, ſo much doe differ, onely as elſewhere is recited for the facility thereof, and for the ſaving of blood and ſpirits, I have thought fit to commend to your conſideration this new method, as to the diſcretion of the Artiſt ſhall be eſteemed fit.

For example.

Alſo I have obſerved, that in ſurfeited delicate bodies of great perſonages, ſuch as are over-pampred with pleaſure, eaſe, and fulneſſe, if by any way or accidents ſuch happen to have a *Gangrene*, ſeldome one of them eſcapeth death, eſpecially if they bee ancient, and have the Dropſie, or Scorbute, and on the contrary, amongſt thoſe which are weake, poore, and indigent miſerable people, which have bin by long continued ulcers, fiſtulaes, or other grievous maladies ſpent to extream weakeneſſe, although ſeeming halfe dead, before the worke beginne ſcarce two of ten dye amongſt them, upon amputation, if the worke be judiciouſly, and in a fit way and time performed, for I by practice have often obſerved, that where an infirmity hath pulled downe a patient low, and almoſt paſt hope of recovery, eſpecially if the diſeaſe proceeded by any outward violence, that ſuch bodies have bin by my experience found to be generally moſt hopefull of recovery, either by amputation in the one or the other kinde, as the occaſion will moſt fitteſt beare; and on the contrarie, perſons that are to bee diſmembred in full ſtrength, if it be to be acted in the ſound part, beare a farre greater venture of their lives, then the miſerable dejected

jected wretches doe, as aforeſaid, except it can be effected in the putrid part.

And one obſervation more, to be by all men had in regard; namely, that our God in Nature hath created in mans body ſuch a ſtrong antipathie betwixt the living and the dead parts thereof, that when by any violence in Nature, either by diſtemperature from within, teſtified by Feavers Peſtilentiall, or others, or by the outward violence of Engines of Warre, or other incident miſchances, as by Fractures, Contuſions, &c. whereby one part or limbe of mans body becommeth ſphacelated and dead before the other; it is manifeſt, that the living parts doe as it were, either in feare or diſdaine of the dead parts, or for ſome other ſecret cauſe in Nature, (though not without great paine and griefe) notably withdraw themſelves each from the other, as in diſdaine, leaving neither warmth, nor at all any comfort, motion, nor ſenſe, either by bloud or ſpirits, or ought elſe mooving in the dead Veines, Nerves, nor Arteries, neither any ſenſe in the *Perioſteon*, that ſenſible Panicle that covereth the bones; but as by a compariſon of a Snaile may in part be explained, they wholly withdraw themſelves: for the Snaile having, by the vertue of naturall warmth, ſtretched her ſelfe out of her ſhell, either for her neceſſitie, nouriſhment, or delight, in a moment apprehending cold, or danger, retyres into her ſhell, and with all her force, by her owne ſlime, ſhuts her ſelfe cloſe up againe, and ſo reſts her ſelfe in a ſuppoſed ſafetie, with her no doubt content; even ſo all the living inſtruments, faculties, or veſſels of Nature, as in a nauſeous diſdaine, contempt, or feare of the dead parts, forſake the ſphacelated parts, and leave them utterly deſperate and impotent, and by vertue of the Radicall Balſam of Nature contracts and ſhrowds her relict living parts, as Artiſts may judge by the mortified toes of children; but much the better, where Art is at hand to aid Nature, ſo that thereby the dead parts become as a noyſome and heavie burthen to the living parts: ſo as if you wound the ſphacelated part, it is not onely ſenſeleſſe, but alſo it is without bloud or ſpirits at all, neither doth bloud or humours runne any more, nor ſo much as moove in the ſphacelated or putrid Veines at all; and whileſt lively Nature is as aforeſaid ſhutting her dead enemie out of her living doores, by ſtopping up all the breaches, that ſhee may hold the relict of her owne, if animall Art have not the charitie to take her dead enemie from her: yet vitall agilitie, aſſiſted by naturall motion and will, in his due time doth efficiate what fairely can be expected, for the aſſiſting of Nature, and ſupplying all defects proceeding *ex intemperie*; all which excellent offices in Nature, no queſtion, proceedes *de præſcientia Dei*.

Here

Here followeth a briefe relation of amputation, or of diſmembring in generall; but more particularly, being for the taking off of members in the rotten or *mortified places: which hath in many caſes beene approoved by the Author thereof, by his owne long experience.*

FOr brevitie ſake, in this place, I will not ſpend time to write of the generall diſeaſes, cauſes, or reaſons, that might urge the amputation of any member, having elſewhere written ſomewhat thereof; onely my intent, for the preſent, is to acquaint the younger ſort with my long experienced practiſe, for the manner of diſmembring in a mortified part, where juſt cauſe is offered: having undertaken it meerely for the publique good, by informing the younger ſort of Surgeons, as well for their encouragements in the ſafe and warrantable putting in practiſe my practicall Method therein, as alſo to ſhew and fore-warne them from being over-much miſ-led, in the inſiſting upon old errours and traditions of their Maſters, Patrons, and Predeceſſours, too punctually; As for example:

A Chirurgicate caſe put betwixt two Surgeons.

Suppoſe the younger Surgeon in conſultation with his Friend or Brother Surgeon, by way of asking advice, ſhould put the caſe and ſay; I have a Patient that hath the toes of his feet putrified, fiſtulated, and many wayes perforated with ſoule bones therein, ſo that it is unſound even almoſt to the joynts of the ankle, or the like, and I have endeavoured by Art, and with advice the beſt I can, to heale him, and cannot prevaile in the Cure: Wherefore, ſince the toes of the foot cannot be cured, the reſt of the foot, as unprofitable, were, as I ſuppoſe, beſt to be taken away, and no leſſe of the legge alſo, for it will be but a hinderance to the Patient, conſidering that hee cannot ſtand thereon, and is full of grievous paine; I will therefore conclude, according to cuſtome, to take all off a little below the Gartering place, leaving a fit roome for the ſtilt, to reſt the body upon: The which his ſaid friend admitteth of, as good practice; and ſo hee proceedeth to the worke, as being a rationall and faire courſe, and warrantable. If the reſt of his ſuggeſtion or indications bee anſwerable unto the aforeſaid allegation, the worke is doubtleſſe good; and ſo I my ſelfe would heretofore have done, untill my practice taught mee better things: but now, by my owne practice, which I much rather would ground on, then upon (*ipſe dixit*) I take a ſhorter courſe: For, if the bones of the toes of the feete onely were foule, fiſtulated, &c.

The Chirurgicate caſe anſwered and admitted.

as

as is ſuggeſted, yea, and therefore uncurable, for ſo ſtands the ſuggeſtion, as being ſo by reaſon of ſome great contuſion, wound, or ulcer, or otherwiſe, as aforeſaid, with diverſe fragments of foule bones in them, or the like; I would not proceed as aforeſaid, if the Patient were mine, and hee or ſhee otherwiſe of a good habit of body, the joynts of the ankle it ſelfe not being fiſtulated nor plainely corrupted: but rather I would take off the foot, I meane the toes onely, before the joynts of the ankle, and ſpare the joynt of the ankle, and that with a fitting Inſtrument made for the purpoſe, with good hope to effect the cure, and to ſave the joynt, to the great joy and good ſervice of the Patient: for I would ſave him a part of the foot to ſtand upon, yea, and if to ſtand on, I dare ſay to goe on in a reaſonable manner; the which I have more then once put in practiſe, and effected with good ſucceſſe: but on the other ſide, if that the joynt of the ankle be diſeaſed, ſo that this my way will not take good effect, then I will yeeld the foot is not to be ſaved, by reaſon of the aforeſaid defects thereof; and then in ſueh a caſe I will give way, and ſay, that the whole legge is beſt to be taken away, as aforeſaid, and it is an artificiall courſe and good practiſe: Yet under favour, let me put the Reader in minde of another rationall good Method, which were a farre better courſe then to take away a guiltleſſe ſound legge, if any other meanes were found, and the practiſe of our times had experienced and approoved thereof, and it is a moderne practiſe frequently practiſed in the *Eaſt-Indies*, as it hath beene credibly reported to me by ſundry credible Surgeons, who having ſpent ſome time in travell there, have related it to me, namely, that they have ſeene diverſe perſons, who having formerly had their feet chopped off at the ankles, by cenſure of their Countrey Lawes, for treſpaſſes committed, and the ſayd men have beene cured by their owne Countrey Surgeons, and after have put their ſtumpes into large Canes or Reedes, which they tearme *Bamboes*, being ſtuffed with Cotton Wooll, or the like, and they all their lives after have beene imployed to runne of Errants, and get their livings as before, notwithſtanding the want of feet, though, as I conceive, not with former like ſpeed: which hath put a longing deſire in me, I confeſſe, having had opportunitie above ſome others, to have tryed the experience in the Hoſpitall, but a fit ſubject hath not preſented it ſelfe to me for a tryall: for I have, I confeſſe, ever beene tender in that point, and loth to put any one Patient againſt his owne free will, upon new inventions, by beginning new practiſe upon him, making an unwilling perſon the firſt example; every Patient in ſuch a caſe having juſt freedome to chuſe his way: although, on the other ſide, a Patient fit for ſuch a tryall of Art ought to be one, who by a violent contuſion, as of a wound made by Gun-ſhot, or ſome other violence, as a violent bruiſe by an intolerable weight had ſpoyled the foot and ankle, and not any one whoſe diſeaſe proceeded from any evill habit in the bloud, as in a body having *Struma*, or ſcrupulous tumours, for there is ſmall hope in ſuch, for their ſtumps will not heale ſound to beare their bodies.

A note of practiſe put.

A yeelding to the firſt propoſition.

An Eaſt-India *practiſe.*

For

It is unjuſt in nature, that any member being ſound, ſhould ſuffer for an unſound one.

For I confeſſe, I eſteeme it very unjuſt in Nature, that any one part of a ſound member ſhould ſuffer and be taken off for the fault or defect of another, being ſound and blameleſſe, eſpecially when any better or other comfort can poſſibly be found. As for example, for the offence or diſeaſe of the toes, let onely the toes ſuffer, and no more of the members of the body be loſt, if it may ſo be: and for the offence of the foot and joynt thereof, if it be intolerable by exceeding paine, and therefore not to be ſuſtained, it is juſt, that ſo much be amputated as deſerveth expulſion, and not, as is ſaid, to take away a ſound and blameleſſe legge, when it is innocent and free from fault, errour, or diſeaſe: for the nobleneſſe of each member of mans body, and namely of the legge, is highly even in humanitie to be tendred and regarded, being a great honour and comfort to the man, when, if without a foot, by the helpe of Art, namely, of a hollow Caſe, or the like, with an artificiall foot adjoyned, a man may decently and comely walke, and ride, goe over a ſtyle, yea, and runne, and ſit ſtreight, and behave himſelfe man-like in Bed, and at Boord, and doe good ſervice for the defence of his Countrey, or of himſelfe: in regard whereof, I ſhould eſteeme that Artiſt a very unworthy, unwiſe, and wilfull perſon, who by any good meanes could keepe a profitable part of any member untaken off, and would preſume to take it away for any reaſon or pretence whatſoever; and beſides, it is no ſmall diſhonour to the Art of Surgerie. Wherefore I will conclude this point, in perſwaſive manner admoniſhing young Surgeons, as I have recited elſewhere, well to be adviſed by counſell of the moſt ancient and beſt experienced Artiſts, before they undertake any amputation whatſoever; and not to thinke themſelves to be diſparaged, by craving counſell, but rather graced thereby; following the Precepts of that ſweet *Lily*, in the Preface of his Grammar:

Of the excellencies of the uſes of part of a member.

Qui dubitat, qui ſæpè rogat mea dicta tenebit,
Is qui nil dubitat nil capit inde boni.

Which may beare this *Engliſh* conſtruction.

Who doubts and askes, hee expert prooves,
and Lilies *Rule makes good,*
whileſt hee that's wiſe in his owne conceit,
puts on the Idiots hood.

A Caveat againſt raſh inciſion, and chiefely abſciſſion.

And as for my Brethren of the yonger ſort, let me lovingly adviſe you, neither for vaine oſtentation ſake, nor popular applauſe, by raſhneſſe, to be guilty of the effuſion of blood, by unadviſed amputation, though you may pretend you have Art for a ſufficient warrant, or for a buckler, leſt God touch your hearts for it in ſecret, who ſeeth not as men ſee, for the artificiall ſhedding of blood hath no warrant nor encouragement written in Gods booke; wherefore in matters of weight, be not too raſh, but be adviſed by counſell; this my ſecond declaration of

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amputation was as else-where is recited, chiefly published to incourage the taking off of a member in the putrid or dead part; where a circular putrid part is, notwithstanding the practice I well know, is by many antient and moderne writers inhibited, as also it hath by reason of old tradition, beene generally shunned, and not so much as beene attempted in our times, and yet nevertheless, some of the antient writers, as *Falopius*, *Fabritius*, *de aqua pendente*, *Iohannes de Vigo*, and some others, as they themselves affirme, have used it with good successe; although by reading their workes I observe by their method, that they were rather narrators one from another, then truely actors; but be it as it will, this one comfort, the Surgeon shall be sure to finde thereby, hee shall no way endanger his patient in that course, either by losse of blood or spirits, nor shall the patient indure any paine at all in the act of amputation after that way, and the practice is good and warrantable in diverse, yea, in most cases, as hereafter I shall explaine, and as my selfe of my many yeares experience may boldly affirme, and it is likewise beneficiall for the Common-wealth and for a true instance of the truth thereof, I have many of my patients so dismembred at the writing hereof, living and in perfect health, I meane which were dismembred in the putrid part, and that upon some patients on both the legges at one instant performed, amongst which tryals I made of one legge, was in *Anno Domini* 1617. Secondly, I had one *Thomas Browne*, about *Anno* 1619. a Sayler, who had received a great wound by Gun-shot at Sea upon the right legge, the greater Fossels thereof being broken in sunder, so that the shot had carryed away two inches of the said bone in length, together with the lacerating the muskles, nerves, arteries, veines, &c. whereby it was so contused, lacerated and torne asunder, with also so much losse of substance, that nature could not beare to heate that member to be any way serviceable for ought, besides there had followed upon the wound so great and intollerable hemorrage or expence of blood and spirits, that the member mortified by reason of the former great evacuations and contusions, neither could nature in that patient possibly have borne a dismembring in a whole part, without eminent danger of present death, and so was the estate and case of this patient before he came by me to be cured in Saint *Bartholomewes* Hospitall, wherefore considering well his most desperate estate, I resolved to make a second experience of him, and did take off the wounded legge in the lacerated dead part, wherein I conceive as afore-said, all men of judgement will easily be of opinion, that the patient by that worke was without danger of death or paine, and without losse of any drop of blood, and I healed this patient by Gods mercy in five monthes, and hee had beene by the halfe sooner whole, had not he lost so exceeding much blood and spirits by his wounds as afore-said; and this patient was living at the writing hereof, being many yeares after the amputation; the method of which cure, with the manner of amputating thereof, shall (God assisting me) hereafter be set downe.

Old, now new practice in amputating mentioned.

Comfort to the patient in abscissing in the mortified part.

A history for an example.

Losse of blood causeth Gangrena.

Another example. The next I tooke off in the mortified place, was one *Thomas Hog*, *a shippe* Carpenter, a *Scotchman*, who also was living at the writing hereof; this man at his labour aboard the shippe, standing stoutly at his worke, at the straining of a Cable as it was running out of the bits of the ship (as the Sea-men terme it) the Cable tooke hold of his leg, close by the ankle, and forceably bruised in peeces, not onely the veines, arteries, and nerves, with the softer parts, but brake also the bones in sunder with extreame violence, in-somuch, as by reason of the want of a Surgeon present to dresse him, by great effusion of blood and spirits, the legge mortified the next day, and he after that, fell unto my part, in the Hospitall to be cured, the which being emboldned by the good successe of the two former, I tooke off his legge also in the mortified part, as I did the other, and made a perfect cure thereof in three moneths, and he followed the trade of a shippe Carpenter at the writing hereof.

Another example. Also two yeares after, I cured an Apprentice of one Master *Goddard* an Upholster at the signe of the Crowne in the Poultry in *London*, named *Iohn Harding*, in his masters house, who after a fierce pestilentiall Feaver, had his right legge mortified in bed as he lay, and I tooke it off in the mortified part at, or neare the gartering place, which by the antient use of Art of our times, must have beene taken off in a sound place, notwithstanding the great feebleness of the patient at that time, and his eminent danger of death, hee being extreme feeble, and at the point of death, in which case to have taken it off in the sound part, hee doubtlesse would have dyed under my hand, but by Gods mercy he lived diverse yeares after, and went most neatly on an artificiall legge not easily discovered.

Another history Remarkeable. A History or a relation of a remarkeable example of an amputation by me performed upon a woman in Saint *Bartholomewes* Hospitall, of both her legges, and part of seaven of her fingers in one morning together all taken off in the mortified part, without paine or losse of blood or spirits at all, and the woman was living at the writing hereof, and the patient was a certaine poore maid or woman servant in *London*, named *Ellin French*, of whom there were made Bookes and Ballads, that were sung about the streets of her, namely, that whereas the said maid or servant, was given to pilfering, and being accused thereof by her master and mistresse, used to curse and sweare, and with words of execration to wish, that if shee had committed the crime shee stood accused of, that then her legges and hands, might rot off, the which thing accordingly, no doubt by the Providence of God, came to passe, as a judgement upon her, namely, that both her legs almost to the gartering place, with parts of seaven of her fingers did rot off, the which wretched woman nevertheless, being referred to me in Saint *Bartholomewes* Hospitall to be cured, by Gods mercy and permission, I healed her perfectly, by cutting off both the Sphacelated legges in the mortified parts with also part of her seaven fingers

The amputation of both the legges and part of seven fingers, of a woman in one morning.

fingers, as is said, all in one morning without paine, terrour or of any losse of blood unto her, in the taking them off, and made her perfectly whole in a very short time, namely, within three moneths, so mercifull is our God unto us vile creatures, when wee are most unworthy of such his mercies. She is at the instant writing hereof, also living.

Now with your friendly patience, one onely example more, I will trouble you with, namely of the cure of a mortification proceeding of a Carbuncle in a Feaver pestilentiall by me performed, and I will therein conclude my shewing of instances, although I could declare many more of living persons, and I will haste to shew forth the manner of my acting of such amputations. *A historie.*

The worke was of a certaine Stationer, then dwelling in *Pauls*-Church-yard (whose name I conceale,) for that at the writing hereof he lived, and it was performed upon his Testicles, who in the Plague time, that was *Anno* 1612. as I remember, or about that time, by a Carbuncle, that by Gods hand seased upon one of his Testicles, and namely upon the left Testicle, that it became wholy mortified, with the halfe of the *Scrotum*, or the purse of the Cod, in briefe, I tooke and cut away the said left Testicle, or stone, which was wholly mortified with the halfe of the *Scrotum*, or the purse of the same stone in the mortified place, and healed him perfectly whole in five weekes and lesse, and after the losse of that his one stone, or Testicle, hee married and had diverse children, and I verily beleeve they were my patient his owne and by him begotten on his wife. *An amputation of a Testicle with the base of the Scrotum.*

Let these instances suffice; and now having presumed of the friendly Reader, by my former digressions, I have resolved with my selfe, though I confesse in a meane stile, to put forth these instructions, being as is said, for the benefit of posterities, as I conceive, and namely, that when my bones are at rest, upon faire and reasonable grounds, any discreet Artist may boldly attempt, and doubtlesse performe the like practice, for that I am confidently perswaded, it will be a meanes for the saving and preserving the lives of many worthy and valiant Souldiers, and other brave and hardy Sea-men, especially in time of Warres, from which God of his mercy protect our Country.

Certaine Rules to be had in regard before dismembring be taken in hand, either in sound or mortified parts.

Caveats before abscission.

The first rule. FIrst, amputation or dismembring of any man whatsoever, is never to be undertaken by any Artist without judicious preconsideration, nor without the advise of other expert Surgeons, first had and obtained, as I have said, yea, and of those of the best judgements in practice, where such may be had.

The second rule. Secondly, dismembring or amputation is not to be put off nor delayed where necessity requireth, not to stay for the best advise; yet let me thus farre explaine my selfe, that the most mortifications, yea and few exempted, may stay for advise, if the Artist doe take his just time for it.

The third rule. Thirdly, I advise that no Artist attempt to undertake the work of taking away any member from any person, but by the desire & with the good will and full consent of the said person first had, if the said patient have his perfect senses, and be of yeares and judgement, but if want be thereof, let the patients friends and kindred be advised with concerning it, and give consent thereto, yea and desire it, for I counsell all young Surgeons to be exceeding modest and sparing, in putting forwards themselves, and their patients to the dangerous worke of amputation, or mooving them at all thereunto, especially where it is to be acted upon the whole skinne, least peradventure it be afterwards said, it might have beene saved on, had not the Surgeon beene over forward for his gaine. For no little, though for the most part unjust reproach and scandall falleth upon the Surgeon, by such his improvident forwardnesse.

A caveat in amputation, not to doe it but by consent and intreaty of the patient.

The fourth rule. Fourthly, the worke of dismembring ought not to be done nor attempted by any, who have not first, either done the like, or at the least beene a helper to dismember some, yea, and more then one, and hath often seene and well observed the manner of the worke, to have beene done by other Artist, before he presume to attempt it himselfe, for the dismembring of the Image of God in man ought never to be performed but with a due reverent, and religious regard.

A caveat necessary.

The fifth rule. Of preparation to amputation. Fiftly, before any begin to make the incision, he ought to have all the materials fit for such a worke ready and at hand (as elsewhere I have advised) and namely both Instruments, Ligatures, Medicines,

Medicines, and all other additaments, which are assistant in the worke.

Sixtly, the amputation once resolved upon, and all things being ready for the worke, let the Surgeon with all his assistances and friends, not forget before the beginning of the worke, heartily to call upon God for a blessing upon their endeavours, and let the patient the day before, have notice given him, that hee also may take time to prepare himselfe with true resolution of soule and body, to undergoe the worke, as being never performed without danger of death, but more especially, if it be to be done in sound parts, which done, then let the Surgeon prepare himselfe as aforesaid, with also his helpers, namely at the least five persons besides himselfe, as for example, one to sit behind the patient to hold him, a second for a holder, who by the Surgeon must be instructed fast to stand before him, and to bestride the limbe to be amputated, and to amplect the member; and a third, to hold and stay the lower end of the diseased member to be taken off, a fourth, to bring and receive backe the sharpe instruments, a fifth, to attend to deliver the Artist his needles, and buttons, restrictive rowlers, boulsters, bladder, with other additaments and services, and so soone as possible may be, to stay with the palme of his hand the medicines applyed to the end of the abscissed stumpe, that being the duty of the fifth helper, and the sixth is the Artist himselfe that dismembreth, for six and not fewer, are a fit number, and that with the least to the worke of taking off a legge or an arme, if it be to be done in the whole or sound part, or for the taking off of a member proceeding by a wound by Gun-shot, done in the lacerated, not totally mortified part, but for the taking off of a member in the mortified part, three persons as assistants may serve, or two for a need, namely one to hold the upper part, the other the lower end, and the third to abscisse, namely the Surgeon. It followeth now, that I proceed to explaine according to my opinion, in what cases a member may be taken off in a mortified part, with as good hope, and more to preserve the life of the patient, then if it were taken off in the sound part.

The sixth rule.

Five persons to assist the Surgeon in amputation.

The manner of amputating expressed.

First, in frozen members, and all that come of extreame cold, it may be done very safely also, in all mortifications of members by Feavers whatsoever, the Feaver being first cured, yea, although they were pestilentiall, I speake this of long and true experience, and therefore conceive, I may without disparagement omit the producing or repetition of the antient writers, for witnesses, or warrants in ought for me in any such workes, as I have manifestly and often performed in the parts mortified.

Amputation in members mortified by cold.

Also amputation may be done safely in all such mortifications as proceed by contusions, as also in all mortified members proceeding by wounds made with Gun-shot, where a mortified place is circulent, or more then seeme circular, and that with comfort and good hope of the saving of life, to the languishing patient, as

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by any other way. And as touching the poore Souldier and Seaman, after that he hath suffered terrible and unspeakeable paine, as also great losse of blood and spirits by his wounds, it were then pity of all pities, if any other remedy could be had or thought of, to wound him a new in the whole part, and thereby to endanger him, yea, and ten to one to kill him by Art, namely by artificiall amputation, to deprive him of that naturall relict, poore blood and feeble spirits yet reserved within him, meerely to hold life and soule together, whereof by consequent the said small portion of relict blood and spirits, being taken away, he must needs perish, yea, even as may be feared in the very act of amputation, the contrary being a wonder, *Quasi unum è multis.*

Amputation in mortified places by hemorrage, safe.

Also amputation in the mortified parts may be done in mortifications that proceed by hemorrage in any wounds whatsoever that can be named, if the patient be otherwise curable by any Art of amputation, he is then safer and more easier cured by this way. Also in all mortifications that proceed by over-hard ligatures, or by the violence of scaldings and burnings, or by the extremity of corrosive medicines immoderatly, or unskilfully applyed.

In places mortified by Dropsie, or other diseases, &c.

Also in all mortified limbes by Dropsies, Scorbutes, the small Pox, or like obstructions that can be said to be curable by amputating in the whole part, and that with as much and more hope, and farre more facility and ease to Surgeon and patient, that worke may be performed in a mortified place, if there be a fit mortified place to doe the worke in.

Also mortifications happening by fractures or dislocations of legges, or armes, fingers, or toes, as also in all cases happening, and proceeding by starving, namely, for want of food, weakenesse and debility of nature, either of children or of old folkes, the patient having no present Feavour at the time of the dismembring, neither being in a *Delirium*, besides many other mortifications for brevity omitted.

Abscission in some cases not to be used.

It followeth fitly also here, that I set forth in what cases abscission cannot be well effected in the sphacelated or dead part, wherein I doe but open againe to posterity in the practike, what the antient Authors have declared in the theoricke, in generall tearmes of amputation in the mortified part, assuring the Artist, that whensoever there is a circular mortification with any hope of life in the patient, it may receive cure by this old new, renovated practice of mine, even as well and better in the mortified part, then in the living. And although generally this knowledge and practice serveth well in times of peace, yet it serveth most fitly in times of warre, yea, and at all times, for such Surgeons as are imployed in military affaires, by Sea or Land, that they might take notice thereof, and also inable themselves to make use of this manner of practise where occasion is offered, for the comfort, and more hopefull preserving the lives of the valiant Souldiers, and brave hardy Sea-men, as I have said, who for the honour and defence of our King and Coun-

A renovated old practice in amputation.

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try, very often are put to encounter with theirs, and our enemies, to their no small perils and grievous sufferings by fearefull wounds made with Gun-shot, and other fierce engines of warre, and by the accidentall harmes, succouring them, whereby they suffer great effusion of blood and spirits by their wounds, so that thereby together with the want of good lodging and comfortable nourishment, which to such good fellowes, is for the most part, but very meane and scant, especially in ships and Camps, their wounds, after their most pittifull endurings and languishings, as afore-said, commonly end in a *Gangrena*, which granted, all men may easily then judge, how heavenly a thing, and above all measure, comfortable it is to the despairing patient, if his life may be preserved and prolonged, and he safely healed without the losse of any blood or spirits at all, or any payne in the act of amputation; and here as by the way I desire to put to the Chirurgicall Readers, a case or two to be considered of, concerning the curing of wounds made with Gun-shot, and namely, I will suppose or suggest a valiant well-deserving Souldier, for the honour of his King and Country, pressing forward in fight, should receive a wound by a shot upon his legge, having broken both the fossils, and so contused and lacerated the parts adjacent, as in an another place was suggested, that it was manifest to the Surgeon, that the legge, for the surer saving of the patients life, were not convenient to be left on, but rather to be taken off according to Art, the afore-said suggestion admitted, what were to be done, the Surgeon I suppose might fairely answere as followeth, although the bones be broken, the muscles with their nerves, veines, arteries, &c. lacerated, contused, and the like, yet I will endeavour to reduce all what is fitting to be reduced to their due and naturall places, formes, and true posture, or as much as may be, and I will speedily hast to stay the flux, the which done, I will for the present, and so for twenty foure houres at the least, repose it to rest, except a furtive flux convulsion, or the like fearefull accident constraine me to looke upon it sooner, and though the worke be desperate, yet, I will not dismember it at the first, but try further, except any eminent occasion, as namely, mortification urge, and beget new thoughts, and then I will take it off in the sound part (and Art warrants me so to doe) least any of the Gangrenated part being left untaken away, as the common opinion is, it should infect the whole, and so I should loose my patient, and be blamed, as for *Mala praxis* unwarrantable. The second might alledge, that the former supposition granted, namely, that if the wounded member would be a burthen, I therefore before the abiding of the time, either of digestion or putrifaction of the aforesaid wounded parts, would whilest my patient were yet in strength, for preventing Feavers, furtive fluxes, and other fearefull accidents incident to such great wounds as *Gangrene*, since I see the member is like though saved in part, yet will be unserviceable and an eye-sore, and burthen, I will immediatly take it off, in the wounded and lacera-

A supposition.

The supposition answered.

A second supposition answered.

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ted part, before that wofull Crisis of *Gangrene* sease upon my patient, which commonly is accompanied with a Feaver, and expence of vitall spirits, and death waiteth at the dore.

The third supposition answered. The third pleadeth in this manner following, and saith the former suppositon granted, yet for my patient, although his wounds received be desperate, as formerly is suggested, it would be held great rashnesse and unadvised cruelty in me, if I should but offer to take off this member, especially in the wounded part, yea, or elsewhere, at the least before it be brought to digestion, wherefore I hold it my safest way to follow a rationall method, by joyning the parts fitting to be joyned, as aforesaid, and to proceed in the cure, the which, if by Art I could effect, I should rejoyce, though my patient were left with an unprofitable limbe, but if the hope of healing came short, then I should hold it fit, if it must be taken off, to doe it in a sound part, and not in a putrid, according to the now generall practice in that kind which is warrantable. But yet let the young Artist take this note from me, that when he apparently seeth that a limbe cannot be saved without amputation, that whilest his patient is yet in strength, as afore is expressed, that hee doe his duty: first to shew the patient his opinion, grounded upon Art and good reason, and if his patient give way to it, then in the name of God, the sooner he taketh it off the better, but if the patient doe not approve of the motion, good reasons being given him, the errour rests in him, but if hee consent to the worke, let him take it off in the wounded part, although it be not wholly gangrenated circular, regarding that memorable old verse.

The resolution.

Principiis obsta, sero medicina paratur,
Quum mala per longas invaluere moras:

And further, let the understanding Artist consider as followeth, that if the bullet have taken away one full third part of a legge, or arme, in the circumference thereof, with the breach of both the bones, the great contusion and laceration considered with; also the losse of blood and spirits thereby happening, it may be feared justly, that the limbe although the party live, will hardly or never be saved, but howsoever, it will be no way serviceable, being done by a contused wound lacerated, so that if ever it be healed, the wound must come to suppuration, and thereby to digestion, so that by that reason some part more will be spent and lost by quitture, and by consequent, if by the part taken away, the part contused so fall out that the halfe limbe, with the office and vigour thereof be lost, or come away by the just course of Art in the healing, scare one often scape with life, by reason of the paine and great expence of blood and spirits, incident, as is said, and by reason of the long continuance of the griefe, so that it falleth out, that for the most part, nature is tyred out, and the patient dyeth in *Marasmus* or hecticke, and such an end is more to be feared at Sea, where want of fitting nourishment

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is, then at Land. So much I held fit to expresse of my experience and opinion, for young Artists to ruminate on.

And now forward againe, to my yet unfinished scope of dismembring in the mortified part: in the prosecution whereof, let me as by the way yet againe put the Reader in minde once more of the old document or phrase, *viz.* That there is no generall rule, but may admit an exception: even so in this case, there are diverse times, places, and causes, wherein amputation in a mortified part is utterly forbidden; as namely, the Patient being in a violent Feaver, or in a *Delirium*, for one case; and yet even then neither is it wholly desperate, and so to be utterly inhibited, but onely during that Paroxisme: for, if by Gods mercie, through the helpe of the expert Surgeon or Physician, the present fit, I meane the *Delirium* be but remooved, and the Feaver taken away, if there be any way to save the life of the Patient, such amputation, I meane in the mortified part, is in my opinion the most safe, easie, and rationall way, being of all other the most likely way to preserve the life of the Patient; for by that, the Artist without paine or effusion of bloud may (*ipso facto*) remoove (*impurum à puro*) the putrid from the sound, and utterly alter the so much imagined or suggested corrosion or venomous qualitie thereof: so as justly it may be said, then it is in this effected; *Causa ablata est, ergo tollitur effectus*, the cause is taken away, and therefore the effect ceaseth.

Amputation in a mortified part in some cases forbidden.

Another inhibition is, when an amputation is to be done, and there is no mortified place to doe it in, which in the most happeneth; and then, in such a case, the Reader will grant the expert Surgeon is freely admitted to chuse his place, so that hee chuse it *secundum Artem*, according to Art, and so proceed; and such occasions are very frequent, as namely for one, when the occasions of dismembring proceed from corrosive, putrid, or fistulous Ulcers in Joynts, or by foule bones, or by fractured bones, or by dislocated bones, or members distorted, or otherwise, by diseases incurable and unsufferable, when and whereas no mortified place can fitting be found, the Surgeon then must be left to take the convenientest whole place.

A second inhibition.

Another inhibition generally is, when an occasion happeneth in a putrid body, where Gangrenous and livid spots, or otherwise discoloured spots happen here and there, to and fro, upon the body, presaging a hidden and venomous humour, or violence, or otherwise deficiencie in Nature from within. Gangrenes doe proceed (*de abdita causa Naturæ*) by occult causes in Nature, or when a dissolution in the harmonie of Nature manifestly appeareth to be at hand, or when Pestilentiall or Carbunculous spots happen upon a Patient, which many times mortifie even to the bone; and yet such Pestilentiall Gangrenous spots after separate of themselves, and the Patient liveth and is healed, for that often in such cases the Patients receive an ordinarie Cure, which my eyes have seene more then one so escape, and cured in the Plague time; and many other occasions may hinder such amputations, which are not now in the apprehension of my memorie to unfold.

A third inhibition.

Advice for younger Artiſts in the cure of Gun-ſhot, by amputation.

Onely I deſire, that younger Artiſts would obſerve to hold the generall rule in wounds made with Gun-ſhot, formerly touched; namely, that they fore-ſee where they cannot ſave a Limbe to be ſerviceable, that they, with the approbation of the Patient, and likewiſe by good advice, they take it away in time, whileſt Nature is in her ſtrength: and if they have a fit mortified place, then to doe it there, if poſſibly they can; and the rather, becauſe there the worke is in part done to their hand; not regarding, though the ſtumpe fall out ſomewhat too long, for that the Patient hath the Artiſt readie ever when he pleaſe, in ſuch caſes as need ſhall require. But grant the amputation be to be acted in the one way or the other, yet the Artiſt may not be wanting of cauterizing Buttons, at the leaſt of one, at any amputation, leaſt having need on the ſudden, and unexpected, there be occaſion of the uſe of one of them, and by their want hee looſe the Patient by improvidence, called had-I-wiſt.

But even now, me thinkes, I heare one of the hotter ſort of my younger Brethren ſay, Will this old man never have done, and ſhew us his Riddle? I have almoſt tyred my ſelfe out with his circumlocutions: Why doth hee not conclude, and come to the matter, after his long proceſſe? Wherefore, leaſt he ſhould grow too much impatient, I will endeavour in ſome weake meaſure to pacifie him, and fall upon the buſineſſe promiſed. In which I conceive, and hope the friendly Reader may gather, and will charitably thinke, that the ſcope of my precedent narrations to amputation at this time, is not altogether unprofitable, and impertinent to the matter in hand, although perhaps adjudged tedious; and namely, were it but onely for to introduct the younger Artiſt, and embolden him to the practiſe: that when I come to the point of the operation it ſelfe, hee may be the readier for the acting thereof; for, in truth, the method will be ſhort: ſo that a few words will ſuffice to expreſſe it, and a few inſtruments or medicaments for the efficiating thereof.

Directions for the amputating Surgeon.

Wherefore, for the firſt worke of amputating in the putrid part, let the Surgeon have at hand at the leaſt two or three miniſters or ſervants beſides himſelfe, to aſſiſt him in the worke, as is heretofore ſaid: and as for Medicines for the firſt dreſſing, let him have readie a good fomentation, being an artificiall ſtrong well fitted *Lixivium*, that may have facultie abſterſive, deſiccative, and almoſt cauſticke, but not ſo ſharpe, that it corrode the hands of the fomentor; let him alſo be provided with fit ligature, and with large woollen ſtupes, alſo with fitting boulſtring and convenient bandage: then let him further have readie for inſtruments, a fit amputating *Cerra*, a Catling, and a good ſmall inciſion Knife, a good paire of ſtrong Scizars, and three or foure cauterizing inſtruments, ſuch as in their places ſhall be deſcribed: and when he proceedeth to the effecting of the inciſion, let one of the aſſiſtants take the upper part of the member, holding it in both his hands reaſonable faſt and ſteddie, I meane the whole part thereof, ſomewhat neere unto the unſound part, and let the other helper hold the other part,

part, I meane the putrid part to be abscissed in his hand, each partie holding reasonable hard and steddie to the worke, whilest the Surgeon himselfe first by circumcising divide the putrid flesh from the bone, doing it somewhat neere the quick part, but not too neere it, about one ynch full from the quick part, as may be imagined, will doe well, that with the *Cerra* hee may come without feare to divide the bone or bones asunder, where hee is sure they are sphacelated, and that carefully first, having regard to make his incision wisely and securely in the insensible part, as is said, not touching any quick part at all with his sharpe instruments, neither with the one nor the other; which hee may the certainer observe to doe, if with a Needle hee enquire cautiously. Let him also divide betwixt the bones the putrid members or parts there being, least by lacerating or tearing with the teeth of the *Cerra* hee offend; which done, let the Artist amputate the bones.

And as for the rest of the worke, the putrid flesh being as is said divided, and bones being abscissed and so remooved, there will be admitted deliberation sufficient, with full time to consider what is next to be done; the which will be, as in order, for diminution of the remaining excrementall part, by abscission or ustion, one or both, to remoove, for the first, as much more thereof as safely you may from the stumpe, with not being over-solicitous in taking all at one time: for in truth it matters not much, neither doth it any thing hasten the worke of healing, that all be at the first remooved; but rather, it may bring terror and danger to the Patient, to be too busie or too forward; which by all meanes should be avoided, for feare of inducing of a Feaver: onely it will not be amisse, at the first dressing, by cauterie superficially to runne over the putrid flesh, and also therewith to heat the end of the bone or bones abscissed; and also after that, with a good *Lixivium satis Calidum* with stupes, well to foment not onely the sphacelated wounded parts, but also the parts adjacent, with sufferable full warmth, for the space of halfe an houre; not at all using any scarification in this whole worke, for that it will bring terror and needlesse paine, and be fruitlesse: which done, leave very warme woollen stupes upon the part; and so well bound up, finish that dressing.

Then the next worke, namely, at the second dressing, will be onely the reiterating of the artificiall former actions and application, ever as aforesaid very warme fomenting, being somewhat hot, and the Medicine ever still readie on the fire, and for the mortified part, onely to be applyed with a scalding hot small Map, of purpose made, or a Spunge, and that with severall and often shiftings and reiteratings for halfe an houre, or longer, provided, you discourage not the Patient, by scalding or excoriating the whole parts next adjacent at all: in which time, it will also be very necessarie, that you have readie one or more of the cauterizing Buttons hot, to apply betwixt the fomentings; as also not omitting, if occasion serve, with Scizers,

or otherwiſe, to be clearing any inſenſible ſloughs from the wounded part: and forget not, at each dreſſing, with a Button to heat the end of the bone, untill the Patient be ſenſible of the heat, and no longer; the Buttons being of ſuch formes, as hereafter in their places ſhall be deſcribed; whereby the reſt of the putrid fleſh may by degrees be conſumed, eroded, abſciſſed, and fret away, as is ſayd.

A caution. But in this worke, let not the younger Artiſt preſume, in a worke of ſupererogation, or over-excellencie, to be too buſie to ſcortch, ſcarifie, or excoriate the ſenſible part, in preſſing to take away all what is putrid from the quick fleſh, nor to cut or divide betwixt the quick and the dead fleſh, for feare of awakening of a ſleeping dogge; neither to provoke paine to the Patient at all, as neere as hee can, further then what of neceſſitie ſhall accede in fomenting, whereby to miniſter a full and ſufficient warmth to the whole parts, and no more; neither by extreame hot ſtupes, in fomenting the living part too too hot, as is ſayd; nor by cauterizing ſo long, untill over-much paine be provoked: onely let all the operations and applications for the dreſſings, from time to time, be very gentle, milde, and pleaſing, as may be poſſible, to the Patient, but eſpecially for the firſt dreſſing, that without any great ſenſible paine the Surgeon may come ſomewhat neere the ſenſible and living parts, ever mildly eroding, clipping, and abſcinding onely the corrupt fleſh, and giving a lively warmth to Nature; and in this manner proceed thrice, if you ſee fitting, or at the leaſt twice for everie twentie foure houres, or as in diſcretion the diſcreet Artiſt pleaſe, and ſo for three dayes and nights together in this worke, or as long or ſhort a time as cauſe ſhall offer: And you ſhall not need to uſe any cauterizing Buttons at all, after the firſt putrid fleſh is eroded, onely one, and that at each dreſſing you may uſe ſomewhat hot unto the remaining dead end of the bone, therewith to cauſe the ſaid end of the remaining abſciſſed bone to ſcale the ſooner: but after the ſecond or third dreſſing, it will be fit to conſider to apply ſome Unguent foveant and digeſtive very warme.

And as for further documents touching artificiall proceeding in this Cure, I may as a ſuperfluous thing, and frivolous, forbeare any further narration to the diſcreet young Artiſt or Scholer in Surgerie, for that the reſt of the Cure will no way differ from the ordinarie way of the Cure of other ordinarie Ulcers, but will be healed with much celeritie and comfort, through Gods favour, both to the Surgeon and Patient. And for the bone, feare it not; for by the onely heating the mortified end thereof, it will ſcale off by that time the Ulcer be healed, and that with fleſh incarnated upon the living part of it admirably, and will in fitting time ſiccatrize, and be perfectly whole, if the Surgeon will have patience with poore Nature in her weakeneſſe to forbeare, and not be too buſie, eſpecially with Minerall Medicines; all which I leave to the diſcretion of each under-

understanding Artist: onely once more with this Caveat, as by reiteration, that for the end of the stumpe, after that it hath scaled, that the Surgeon be sure to use no Minerall Medicine at all, as precipitate *Vitriol*, nor any other, neither mixed with *Basilicon*, nor otherwise, but with gentle and ordinarie Digestives, Mundificatives, Incarnatives, and the like gentle Desiccative, or at the utmost, *Parum Alumnis Vsti*, if need be: for that by experience I know, that Minerall Medicines, as they helpe to scale a bone, so they will surely helpe to defile even the same bone againe and againe, and so make long worke upon worke; the which is foule and hatefull for any Artist to be guiltie of, that professeth to feare God; yea, and it is abominable to be wittingly tainted with that divellish crime: for, let reproach and many evill Curses ever attend upon that Surgeon, which willingly prolongeth healing; for which, many an innocent Artist dayly stands accused unjustly thereof: which guilt I advise all the Sonnes and Successours of *Æsculapius* may avoide, even as they feare God, and desire a blessing from him upon their Labours.

The Conclusion.

And now to conclude, concerning amputation aforesaid, see it be done in requisite time: For the omitting thereof, untill the bloud and spirits be too much spent, maketh often the successe of the worke doubtfull and desperate, especially where it is to be acted upon the whole part: for in truth, when the languishing Patient shall truly say, *Deficit animus*; it will be too late for the Artist to answer, *Iam venio*. And so I will take my leave at this present, concerning the manuall part of the worke, in amputating in a mortified place: and for the doing of it in the whole part, I referre the Reader to what I have formerly, in my first Edition, in the *Surgeons Mate* explained, which, together with this Post-script, I conceive may satisfie any indifferent Reader.

Onely one observation more, as in charitie to the Patient and the young Surgeon, I thought fit to acquaint the young Surgeon with what my experience shewed me, and that is; That after any amputation either in the sound or mortified part, the first eskers or cadaverous sloughes being removed, and the Ulcers reasonably digested, mundified, and somewhat incarnate, the Patient useth ever to be exceeding sensible, and grievously tender, and also flesh is subject on the sudden to grow over fast, and the stumpe is subject to turne cancrous, or at the least very dolorous: For remedie whereof, I use for one dressing, to have Pledgents of fine Towe made readie before-hand, so much as will cover the whole Ulcer; and having ordinarie good strong *Vnguent. Ægyptiacum*, without sublimate, seething hot in a small flat Pewter or Stone-Dish, dip the Pledgents therein, being very exceeding hot, and suddenly applyed so hot to the Ulcer, and bound with another thicke Pledgent to keepe it warme, binde it up, and dresse it no more in 48 houres; and for the next dressing, cover the Ulcer onely with soft Lint, and likewise in all other dressings, provide by thick Pledgents of Towe

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ever to keepe the ſtumpe very warme: and that one onely dreſſing, as aforeſaid, of *Ægyptiacum*, will wholly take away the tenderneſſe, and very much conduce to true healing; which a fortnight after, if need be, may be reiterated.

And as touching amputation to be performed in the mortified place, for that the curing differs nothing from that in common uſe for the healing of Ulcers in generall (as is ſaid) therefore if the diſcreet Artiſt have a ſtrong and fit *Lixivium*, a good *Ægyptiacum*, a Digeſtive, a Mundificative, an Incarnative, and a Deſiccative or Sigillative Unguent, and according to Art, and in their ſeaſons, make uſe of each of them, hee is then fitted for the worke. And for the firſt, hee may prepare his *Lixivium* as followeth, if hee pleaſe, and have not one of his owne experience.

A fitting *Lixivium*, for the amputating of any member in the mortified part.

nota — Lixivium. R Ec. *Com. Lix. de Cineribus Lign. Fract. Gallanos quatuor, herbæ Centaur. Scord. Card. Benedict. Hyper. Abſinth. Roſemar. ana. p. 3. Flores Camom. Melilot. ana. p. 4. fiat decoctio ad tertiæ partis conſumpt. colentur ac colat. adde Sal. Com. M. 2. Vitriol. Viride ſe. lib. Spiritus Vini, ij. lib. Miſce ſimul S. A.*

Vng. Ægyptiac. Rec. *Æruginis ℥. v. Allum. Rochiæ ℥. iiij. Vitriol. Roman. ℥. ij. Sal. Commun. ℥. j. ſe. Mellis ℨ. ij. ſe. Aceti fortis ℨ. iij. Miſce & coquantur ad ſpiſſitudinem Vnguenti.*

Vng. Digeſtiv. Rec. *Ceræ Albæ, Reſinæ Pini, ſeve Vaccini, picis Græcæ, Terebin. Olibani, Mirrhæ ana. ℨ. j. Olei Oliv. lib. j. aut quantitatem ſufficientem. Miſce & fiat Vnguentum. S. A. In cujus loco Liniment. Digeſtivum Arcei ſufficiet.*

Vng. Mundificat. Rec. *Terebinth. Reſinæ, Ceræ Albæ, Amoniac. ana. ℥. xiiij. Ariſtoloch. Long. Thuris Maſculi, ana. ℥. vj. Bdellii, Myrrhæ Galban. ana. ℥. iiij. Opopanacis, For. Æris, ana. ℥. ij. Lytharg. ℥. ix. Olei Oliv. lib. ij. ſe. Aceti, quant. S. ad Ammoniac. Galban. & Opopanac. diſſolvendum Miſce ſecund. Artem.*

Vng. Incarnat. Rec. *Ceræ Citrini, ℨ. vj. Olei Oliv. ij. lib. ſe. Terebinth. ℨ. ij. Reſinæ Colophoniæ ana. ℨ. j. ſe. Thuris, Maſtichis ana. ℨ. j. Croci ℥. j. Conficè ſecund. Artem.*

Rec.

Rec. *Olei Oliv.* 1 *lib. ſſ. Lytharg.* ℥. *ij. Minii* ℥. *iij. Ceruſ.* ℥. *j. ſe. Tutiæ, Camphor. ana.* ℥ *iij. Ceræ Cirini,* ℥. *ij. Miſce S. A. & fiat unguentum.* Vng. Deſiccat.

Moreover, there are to be prepared ready: 1. Cauterizing Buttons, ſuch as are following hereafter deſcribed, for the eroding and fretting away of the putrid, Cadaverous, or ſphacelated remainer after abſciſſion of the firſt part, and theſe cauterizing Buttons ought to bee thicker then others, namely more ponderous then thoſe, which uſually Surgeons uſe to cauterize the end of one or two veines or arteries, which being otherwiſe not ſo ſerviceable for this kind of amputation or operation, of which it were requiſite, that two or three were laid into the fire privately, to bee hot, to doe ſuch needfull ſervices, as that worke of diſmembring requires, namely, they being hot, are to cauterize or erode (as is ſaid) the putrid fleſh.

Alſo it is as fitting to have in readineſſe the other inſtruments common in all amputation, viz. A well fitted ſaw, a diſmembring knife, and inciſion knife, or a ſharpe inſtrument, fit to divide and cleanſe betwixt the bones &c. Not forgetting likewiſe the other fit materials, amongſt the reſt, as ſtupes and rowlers, all which it ought to bee the Surgeons owne care, to be ſure to ſee ready, that no one thing be wanting at the inſtant, and not to truſt to his aſſiſtances, leaſt to his griefe and reproach, he be wanting of ſome one or more of them in his neceſſity.

LOving Brethren, if the meaneneſſe of my ſtile, the weakeneſſe of my aged memory, capacity, or what elſe ſoever herein, is not anſwerable to thy expectation, from me, yet take it in good part I pray thee, as proceeding from a Friend, who, if his Talent could have afforded better, would willingly have imparted it to thee. The former was the fruits of my youth, this, ſuch as the weakeneſſe of old age can affoord. The publike good acceptance of the former, hath purchaſed the latter.

Vale in Chriſto.

Certaine

Concerning the Inſtruments for Amputation in the ſphacelated part.

BEnevolent ſpectator, here enſuing to thy view, are deciphered the Inſtruments moſt uſefull for the Manuall operations of ſeverall Amputations in the ſphacelated parts of members, which being for memory ſake only deſcribed to the expert Artiſt, he will eaſily conjecture and reſolve in Art, according to each preſent occaſion, which of them to make uſe of, and which to omit: all of them tending to the ſcope of a reſolved abſciſſion, by ablating *impurum ab puro*, the unpure from the pure, for the better perfecting the warrantable ſcope of the ſtudious Artiſt, in efficiating the ſame, that he may make a cure thereof, although detractors and depravers of that excellent Myſtery of healing, maliciouſly make a by-word, or word of reproach, againſt Surgeons, of making a cure, yet I will hope, if it be for the ſaving of the precious life of his miſerable patient, the making of a perfect cure, will have a faire conſtruction from good men: yea although it be to be performed as indeed it muſt be, part by abſciſſion, aduſtion, cauterization, by eroſion, or Cerra, or how elſe ſoever the worke may be ſafeſt, and ſureſt, and more artificially efficiated. All & every of which apparent particulars, in their due turnes, times and orders, are to be made uſe of, which to deſcribe in each particular, or more thereof then is heretofore related, would be but tedious for me, and frivolous for the Artiſt, who joyning his reaſon & experience with the reading my precedent relation, will doubtleſſe, by Gods favourable permiſſion, make a ſound cure of his patient: maugre the ſcandall of detractors, in the abuſe of that honeſt phraſe, to the reproach and unjuſt vilifying of many an honeſt well deſerving Surgeon. I end with an old Phraſe,

Ars non habet inimicos præter ignorantes.

FINIS.

THE TABLE.

A

Ablution. 268
Absinthium herba. 81
Acetum { Commune, Distillatum } 249, Rosatum, Vini 44
Aer, 249. to be corrected in infection, 335
Aes { commun. 77, Viride. 251
Aestas. 251
Agaricum. 64
Albation. 268
Album Græcum. 83
Alumen { Combustum. 249, Commune. 67.249, Plumbosum. 249
Albumen Ovorum. 249
Alcolismus. 268
Aloes. 65. 348
Amalgama. 249
Amalgamatio quid sit. 268
Amigdalæ { amaræ, dulces } 69, 70
Amputation, when and how to be used on all occasions, 146. 156. 158. in Gunshot, 304. in putred parts, 387 Amputation in the mortified place 389. a legge taken off in the putred part, 390. Mortified flesh doth not presently hazard the life of the Patient, 391. Amputating in the putred part is good, 392. Amputation in generall, 394. sixe rules necessary in Amputating a member, 400, 401. sixe persons necessary in the amputating a member, 401. Amputation in members mortified by cold, 401. Amputation in a member mortified by Hemmorage, 402. Amputation in mortified places by the Dropsie, 402. Abscission in some cases not to be used, 402. Amputation in a mortified part in some cases forbidden, 405. Advice for young Artists in cure of Gunshot by Amputation, 406. Directions for the Amputating Chirurgion, 406. a Caution in Amputation, 408. the Conclusion of the Treatise of Amputation, 409. Lixivium for the amputating any member in the mortified part, 410
Amylum. 70
Ammoniacum. 71
Annus. 250
Angena mendosa cured. 362
Antimoni vulgare. 73, Vitri, Regulus. 250
Anthrax. 331
Apostumes in the mouth opened, 1. cured by Causticks, Incision, &c. 141, 144
Aqua 250
Aqua { Cardui Benedicti. 40, Cælestis. 38, Cinnamoni. 39, Doct. Stephani. 38, Falapii. 42, Fortis. 43.250, Anisi. 40, Absinthii 40, Angelicæ. 40, Balsami. 40, Limonum. 39

Menthæ. 40
Oderifera. 42
Plantaginis. 42
Regis. 250
Rosarū { Damascenarū, Rubrarum. 41
Rorismarini. 39
Sassafras. 39
Viridis. 42
Vitæ. 250
Argentum vivum 77
Aromatization. 268
Arsenicum. 77,250
Attrition. 268
Aurea Alexandrina. 60
Auriculum. 250
Auri pigmentum. 250
Aurum Potabile. 250
Autumnus. 250
Axungiæ { Cervi. Porci. } 36

B

Baccæ { Iuniperi. Lauri. } 79
Bags. 24
Balme water. 40
Balneum Mariæ. 251
Balsamum { Artificiale. Naturale. 49 51
Bason of Brasse. 22
Bdellium. 71
Bedpan. 24
Benzoin. 73
Benedicta Laxativa. 63
Blaines. 232
Bleeding at nose. 171
Blood-letting. 19,20
Board to spread plaisters upon, 24
Bladder to search, vide Cathetor.
Bolus { Armenus. Communis. 251 75,251
Borax Veneti. 251
Broths. 352
Bricks. 25
Bubo, signe of the Plague, cures, 330, 365
Burnings. 98
Burras pipe. 20
Buccellatio. 268

C

Calcanthum, vide Coperas or Vitriol.
Calcinare. 268
Calcinatio. 268
Callenture what it is, signes and cures, 23, 205
Calfactio. 268
Calidus. 251
Calor. 251
Calx { Commun. Ovorum. Viva. 251 251 83,251
Caustick white, its cōposition, 46,210
Candle, vocat. searching Candle. 15
Cambodgia. 66
Camphora. 75
Cantharides. 74
Calcother, or Deadhead. 216,252
Carduus Benedictus. 81
Cariophili. 70
Carunckle in the bladder. 15
Cassia Fistula. 66
Cathetor. 15
Catlings. 1,2
Carbuncles, signes of the Plague, nature and cure. 331
Cementare. 252
Cementum Cementatio } 268
Cera citrina. 74,252
Ceratio. 268
Cerussa Venetarum. 76,252
Chasing dish. 24
Chalibs. 251
Characters usuall with Chymists, from 248, to 260
China. 66,253
Cinefactio. 268
Cineres ligni. 252
Cinnabrium. 78,252
Cinnamonum. 70
Circulatio. 268
Clarificatio. 270
Clouts. 24

Close-

Close-stoole. 25
Coadunatio. Coagmentatio. Coagulatio. Coctio. Cohobatio. Colatio. Colliquatio. Coloratio. 270
Colica passio, nature of it, signes, cures. 197, 198, 199, 200
Combustio. Comminutio. Complexio. Compositio. 270
Confectio Alkermes. 58
Confectio Hamech. 56
Confrictio. Confusio. Congelatio. Conglutinatio. 270
Conservæ Anthos. Cidoniorum. Lujulæ. Prunellorum. Rosar. rubr. 55
Contusio. 270
Convulsion. 88
Copperas, vide Vitriol.
Copper, vide Venus.
Corallus albus rubr. 252
Cornu cervi. 65
Corrosio. 270
Cortex Granatorum Guaci 67
Costiveneſſe. 9, 200, 201
Cribratio. 270
Crocus Commun. Martis. Veneris. 66 252
Crowes Bills. 7
Cupping-glaſſes. 22
Cupping. ibid.
Cups for Phyſicall potions. 24

D

Decoctio. Deliquatio. Deliquium. 253 270
Deſcenſio. Deſpumatio. 270
Dentes Elephantini. 59
Diacodion. 60
Diamoron. 54
Diaprunum ſimplex. 56
Diarrhæa, or flux of the belly, the cure. 177, to 183
Diaſcordium. 60
Diaphoreticks to procure ſweat, 318
Diateſſaron. 53, 346, 347
Diatrion piperion. 57
Dies & nox. 253
Diet pot. 23
Diffiatio. Digeſtio. 270 253, 270
Diſlocations. 153, 154, 155
Diſmembring. 146, 156, 158. in Gun-ſhot, 304. in putred parts, 387
Diſſolutio. Diſtractio. Diſtillatio. Divaporatio. 270
Drinke for the Calenture. 23, 205
Drinke for the Laske. 23
Dyſenteria, and cure, 182, 183, 184, 185

E

Eare-pickers. 12
Elaboration. Election. 271
Electuarium Diacatholicon, 56
Electuarium Diaphœnicon, 56
Electuarium de Ovo, 58, 344, 345
Electuarium de ſucco Roſarum, 56
Elementa. 253
Elevation. Elixation. Elution. 271

Emplastrum
- Calidum. 29
- De Lapide Calaminari vel grisium. 29
- Diacalsithres. 28
- Diach. cum gummis. 27
- Diach. parvum. 28
- Melilot simplex, & pro splene. 28
- de Minio. 29
- Oxicroceum. 28
- Stipticum Paracelsi. 27

Esker when to be pricked in Apostumes, 47. lying long, a good signe. 47
Eskers fall must not bee hastened, where Nature hath breathing. 47
Esker cannot by Art be kept in Apostumes. 47
Evaporation. 271
Euphorbium. 65
Exaltation, Exhalation, Expression 271
Exitus Ani, the causes and cures by fomentation and otherwise. 212, 213
Expressio, Extinctio, Extractio 271
Extract. Cathol. purg. 56
Eyes ill affected to cure, 215

F

Farina Fabarum, Hordei, Tritici, Volatilis 80
Fermentatio, Ferruminatio 271
Fever, what it is, with cure in generall. 88
Files with their uses. 10,11
Filtrum. 253
Filteratio. 271
Fimus Equinus. 253
Fish living draw Carbuncles. 365
Fission. 271
Fistula's and Vlcers with cures. 147
Fixatio. 253,271
Fluxes, the divers kindes, cures, 177, 178, 179, 180. an approved remedy for the flux. 25,26
Flos Aeris. 253
Flores Anthes. 78; Balaustiarum. 78; Centauriæ. 79; Chamomeli. 78; Hyperici. 79; Melilot. 79; Sambucin. 79
Folia Sennæ. 64
Forcers. 16
Forceps. 17
Fractio. 271
Fractures, with the parts and divers cures. 149,150
Falling of the Fundament, vide Exitus Ani. 112,113
A Funnell necessary. 24
Frixion. 271
Fulmination, Fumigation 271
Fumes for infected aire, and houses, apparell. 337,338
Fulnesse of stomack by nauseous humours. 348
Furfur Tritici. 80

G

Gangreene, the definition and cause, 381. cure. 384,385,386
Gangreene caused by losse of blood, 397. Examples of Gangreenes amputated by the Author. 397,398
Galbanum, 72
Gallæ. 75
Galles unguent in Amputation. 159
Galens rule in Dysenteria. 188
Ginger vide Zinziber.
Glasses. 24
Glister pot. 12
Glister Siringe, vide Siringe.
Glister, how to prepare with rules in the administration of it. 12,13

Gold,

Glister vocat. Enema Fumosum, with the draught or description of the Instrument or Pipe, whereby we deliver it, 49
Gold, vide Sol.
Goose Bills. 7
Gradation. 272
Gradus. 254
Granatorum Cortex. 67
Granulation. 272
Gravers. 10,11
Gray paper. 24
Guaci { Cortex, Lignum } 67
Guaci { Gumm. } 67
Gummi. 71
Gummi { Ammoniacum. 71
Gummi { Galbanum. 72
Gummi { Guacum. 71
Gummi { Opopanac. 71
Gummi { Sagapænum. 72
Gummi { Tragacanth. 73
Gummi { Bdellium. 71
{ Myrrha, Masticke, Styrax. } 72
Benzoin. 73
Ladanum. 72
{ Pix Burgundiæ, Communis. } 73
Resina. 73
Gums overgrowne with filthy skin, and rotten, with their cures, 213
Guttigamba, vel Cambogia. 66

H

Hamules. 11
Hemorrhæd. 87,171
Head Saw with rules in Sawing, 5
Hermodactyli. 65
Hookes. 11
Hernia humoralis, with Cure, 308
Horsleeches draw Carbuncles, 365
Hordeum { Commune, Gallicum } 67
Humectation. 272
Hyems. 254

I

Ignis. 254
Ignition. 272
Illiaca passio what it is, the signes, cures by Cataplasmes, Fomentations, Glisters, Potions, &c. 194, 195,196
{ Illiquation, Imbibition, Imbution. } 272
Incarnative medicines. 89
{ Inceration, Incineration. } 272
Incision. 1,2
Incision by Caustick. 1
Incision by the Caustick stone. 47
Inke. 24
Incorporation. 272
{ Infusion, Inhumation. } 272
Injections into the yard, with the manner how to insert. 14
Injections of Mercury, bad for the yard. 14
Insolation. 272
Intemperature in generall, what it is, and what intemperature of the Liver is. 87
Irons to cauterize. 7
Irrigation. 272
Iron, vide Mars. 248
Iupiter or Tin. 248

K

Knives for Amputation or dismembring with their use. 2
Knives for Incision. 1,2

L

Lac Virginis. 240
Laudanum. 72,306
Lanthorne. 24

Lapis { Caluminaris. / Granatus. / Hematites. / Magnetis. / Prunellæ. / Sabulosus. } 254

Lateres { Cribrat. / Integr. } 255

Laudanum Opiat, Paracelsi. 59,189, to 194

Launcet with the use. 18

Lead, vide Saturne. 239

Lenticular. 316

A Levatory. 4

Levigatio. / Limatio. } 273

Limatura Martis. 255

Limon juyce. 165

Limon water. 39

Linamentum Arcei. 35

Liquatio. / Liquefactio. } 273

Liquiritia. 67

Lixivium. 210

Lixivium. { Commune. / Forte. } 44

Lixivium lucinium. 255

Lotion commun. 43,273

Lues Venerea. 254

Luna. 239. { Crescens / decrescens. } 254

Lupines. 74

Lutation. 273

Lutum { Commune. / Sapientia. } 255

Lienteria. 177

Lythargirum. 77

{ Argenti. / Auri. / Plumbi. } 256

M

Macis. 70

Maceration. 273

Mallet and Chissell for Amputation, 5

Marchasita. 256

Mars or Iron. 236

Mastick. 70

Maturation. 273

Mel simplex. 37,257

Mel. { Rosarum. 54 / Saponis. 33 }

Measures for Chirurgions. 310

Melissa. 81

Mellilotum. 81

Mensis. 256

Mentha. 80

Mercurius. 238,248

Mercurius { Iovis. / Lunæ. / Martis. / Præcipitat. / Saturni. / Sublimat. / Solis. / Veneris. } 256

Mercury praised in generall, and also dispraised, 239,256

Methridatum. 58

Metals seven in number, their vertues, names, and Characters, 239, 248

Minium. 77

Minii Emplastrum. 29

Mint-water. 40

Minutum. 257

Mirabolans. 65

Mistion. 273

Mollition. 273

Morter and Pestell. 24

Mullets. 11

Multiplication. / Mundification. } 273

Mummia. 74

Myrrhe. 70

N

Necke of a glister Siringe may be crooked. 12

Nippers for Amputation. 5

Needles and stitching quills. 18

Niter salt. 47,217

Nutrition. 273

Nux Moscata. 71

O

Oleum. 257

Oleum Absinthii. { Commun. 50 / Chimic. 53

Oleum Amigdalarum { Amararum / dulcium. } 50

Oleum { Anethinum, 48 / Agarici. 49 / Anisi. / Antimonii. } 52 / Chamomelinum. 48 / Cariophillorum. 51 / Hypericon { compositi. / simplex. } 48 / Iuniperinum. 52 / Laurinum. 49 / Lilliorum. 48 / Lini. 49 / Lumbricorum. 48

Oleum { Macis. 51 / Origani. 53 / Ovorum. 49 / Papaverum. 50 / Petreoli. 50 / Philosophorum. 52 / Rosarum. 48 / Sambucinum. 49 / Scorpionum. 50 / Spicæ. 52 / Succini Chimicè. 53 / Sulphuris per Campanã. 51 / Terebinthinæ. 52 / Vitrioli. 51

Opium. 66

Opopanax. 71

Orpiment, vide Auri pigmentum

Oximel simplex. 54

Oyntments fit for the Chirurgions Chest. 31

P

PLaces. 10

Payle of Brasse. 24,25

Philonium. { Persicum. / Romanum. / Tarsense. } 60

Phlebotomie with instructions concerning blood-letting. 19,20

Phlegma Vitrioli. 212,257

Phlegmes. 11

Piger Henricus. 257

Pilulæ { Agregativæ. 61 / Auræ. / Cambogiæ. / Cochiæ. / de Euphorbio. / Ruffi. } 62

Pils how to be hardened and dryed up. 166

Piper nigrum. 70

Pipkins. 24

Pix { Burgundiæ. / Græca. / Navalis. } 73

Plasterbox with appurtenances. 16

Plasters for the Chirurgeons Chest. 27

Plantaine water. 42,184

Plague what it is, 323. what parts are most subject to the plague, 324. naturall causes, 326. precedent signes 327. signes presaging death, 328. Gods tokens with the manner of them, 333. Directions for preservation from Infection, 334. Fumes to purge aire in houses, 337, 338. Cordials, 340, 364. Bolus Armeny unsafe, Burges receit, 343. Electuar de Ovo good in the plague, 344. Diatessaron good in the plague, 346. Cordials for women with childe 347. Pilulæ Ruffi, their vertue and dose in the plague, 348. Plague not cured by solutives, 351. danger of Laxatives, 352, 359. Iulips for the diseased of the plague, 354. against sounding, 355 Bloodletting good in the plague, and sweating to be used, 357. Venice Treakle good in the plague, 360. Diet for the sick of the plague

361. *Angena mendosa incident to people in contagious times, with the cure*, 362. *cure of paines in the head of those, who are infected*, 363. *Emplasters and Cataplasmes to draw and heale Buboes, Blaines, Carbuncles*, 364, 365, 366. *Aurum vitæ, a rare Experiment to cure the plague by sweating, the manner of using it*, 367. *Lastly, Certificates from S^t. Margrets Westminster, to the Lords of the Councell, concerning the effects of this, and another Certificate from the Major and Iustices of Northampton, touching the cures done by the Aurum vitæ.*

Plumbum { *album.* 76 ; *philosophorum.* 257 ; *ustum.* 77

Polypodium. 65
Porringes for blood-letting. 23
Gally Pots. 24
Præcipitate, vide Mercury.
Precipitation. 273
Probation. 273
Probes with use of them. 8
Procidentia Ani, vide Exitus Ani.
Projectio. } 273
Prolectatio. }
Pullicans. 10,11
Pulpa Tamarindorum. 61
Pulvis. 257
Pulvis Arthretious. 63
Punchies. 10,11
Purgatio. 273
Purificare. 257
Putrefactio. 257,273

Q

Quartation. 273
Quicksilver. vide Mercury.
Quils for stitching. 18
Quinta Essentia. } 258,273
Quinta Essentia Vini. }

R

Radices { *Altheæ.* 82 ; *Angelicæ.* 82 ; *Chinæ.* 66 ; *Consolidæ, major.* 82 ; *Pyrethri.* 82 ; *Raphani silvestris.* 82

Rasion. 274
Rasour. 2
Ravens Bills. 7
Realgar. 258
Reductio. 274
Repurgation. 274
Resina. 73
Resolution. 274
Restinction. 274
Restrictive necessary in a fracture. 150
Retorta. 258
Reverberation. 258,274
Rhabarbarum. 64
Rob. { *Berberum.* ; *Cidonioram.* } 55
Rosa solis. 38
Rosæ rubræ. 78
Rose-vinegar. 44
Rose-water { *Damaske* ; *Red.* } 41
Rosemary. 80
Rosemary water. 39

S

Sabina. 82
Saccharum. 69
Saith. Saturni. 179,240
Sal { *Absinthii.* 216 ; *Askoli.* 259 ; *Ammoniack.* 259 ; *Colkotharis.* 259 ; *Communis.* 258 ; *Gemmæ.* 258 ; *Nitri.* 47,317 ; *Petræ.* 258 ; *Tartari.* 259
Salts the antiquitie and kindes, 206. *what*

what uses it serveth to, and the necessitie of it, 207,208,209,210, 211,&c.
Salvia. 81
Salvatory with appurtenances. 16
Sapo. 259
Sarsaperilla. 66
Saffron. 66
Scissors { Of Copper. / Of Iron. } 252
Sassafras. 67
Sassafras water. 39
Sagapenum. 72
Sanguis Draconis. 74
Saw for Amputating. 5,158
Saw for the head. 5
Scammonium. 64
Scorbutum, or Scurvy, what it is, the nature, and names of it, the causes, 161. signes of it, 162, 163. the cure by Lotions, 169. by baths, oyles, and Vnguents, 170,171,172 the cure for the ulcers of the Scurvy, ibid.
Searces. 24
Section. 274
Segregation. 274
Semen { Anethi. 69 / Anisi. 68 / Carui. 68 / Cardui. 68 / Fæniculi. 68 / Fænugræci. 68 / Lini. 68 / Papaveris. 69 / Petroselini. 69 / Plantaginis. 69 / Quatuor { frigida major 69 / frigida minora 69 }
Serginge { Large / Small } 12,13
Separation. 274
Sheeres for Incision. 8
Siccation. 274
Sigillum Hermetis. 259
Sikes. 11
Silke for the stitching needles. 18
Silver, vide Luna.
Sizers. 17
Skillet. 24
Sol, or Gold. 239
Solution. 259,274
Sope. 259
Sorrell. 171
Spatulae's { Great / Small } 9,17
Spatula Mundani. 9
Speculum { Ani. 6 / Linguæ. 6 / Oris. 5 }
Speculum Oris with a Screw. 6
Sperma Ceti. 74
Sphacelus what it is, the way of Amputating of the Sphacelated part, 387. Amputation made better by experience, 388
Spiritus { Terebinthinæ. 46 / Vini. 45,259 / Vitrioli. 212 }
Splints. 24
Spleene and the diseases of it cured. 28
Spodium. 75
Spunges. 24
Stercus Caninum, vide Album Græcum.
Stibium. 75
Stitching. 18
Stone in the bladder, to search it by Cathetor, and searching candle. 15
Storks bills. 7
Strainers. 24
Stratification. 274
Statum surer stratum. 259
Styrax { Calamita. / Liquid. } 72
Stephens water, and its vertues, 38
Subduction. 274
Sublimare. 258
Sublimation. / Subtiliation. } 274
Succinum. 73
{ Album. / Citrinum. } 259

Succus { Absinthii. / Acaciæ. / Glicerhizæ. / Limonum. } 61

Sulphur in generall what it is, and its vertues, 76,221,222,223,224

Sulphur { Commun. / Philosophorum. } 258

Sumach. 75

Syncope, what it is with the cure. 88

Syrupus { Absinthii. 53 / Ciuamoni. 53 / Limonum. 53 / Papaveris. 53 / Prunellorum. 55 / Raphani silvestris. 54 / Rosarum { Simplex. / Solutivũ } 54 / Violarum. 54

T

Talcum. 260

Tamarinds. 165

Tapes. 24

Tartar. 260

Teeth how to be drawne out. 10

Tenasmus what it is, cure. 9,201,202

Terebellum. 7

Terra. 260

Theriaca { Andromach. 59,360 / Diatessaron. 53,146 / Londinensis. 57

Thread and needles. 24

Thimum. 81

Tigillum. 260

Tinderbox. 24

Tin, or Iupiter. 248

Torrefactio. 274

Tow. 12,24

Transmutatio. / Transudatio. } 274

Trafine a new invented instrument which worketh farre better, and more safe then the Trapan, 313, to 318

Tragacanth. 73

Trapan with the use. 3

Trochisci de { Absinthio. / Alkandal. / Minio. / Spodio. } 63 64

Tumors not to be incised. 1

Tumor defined in its kinde. 87

Tumores. / Turbith. } 260

Turpethum Cathapsaris. 65

Tutia. 77,260

V

Veines must be opened. 19, 20

Veine how to be opened. 20

Venus, or Copper. 239

Verjuice. 43

Vitriolum. 96,212

Vitriolum album. 215

Vitriolum ustum. 215

Vitrioli mel. 216

Vitriol called Colkother, vide Colkother.

Vitrification. 274

Vitrum. 260

Vlcers cured. 147,148. &c.

Vlcus. 260

Vnguentum { Album Camphoratum. 32 / Aegiptiacum. 31 / Apostolorum. 31 / Aragon. 36 / Aureum. 31 / Basilicon. 31 / Dialthæa { composit. / simplex. } 34 / Diapompholigos. 32 / contra Ignem. 33 / Martiatum. 36 / de Mercurio. 34 / Nutritum. 32 / Pectorale. 32 / Populeon. 33 / Potabile. 34 / Rosatum. 32 / contra Scorbutum. 34 / Saponis Mel. 33 / Triapharmacon. 32

THE TABLE.

Vrina. 260
Vstion. 274
Vva passa. 70
Vvula spoone. 21

W.

VVaters for a Surgeons Chest, vide Aqua.
Waters vocat: Hot Waters in what quantity to be taken, when good, sometimes put in Glisters. 41
Wax lights. 15
Weights and Scales. 24,310
Wormewood water. 40
Wormewood salt. 216
Wormes a cause of Disenteria. 183
Wine vinegar. 44
White Paper. 24
Wounds in generall, with cures. 85
Wounds in the Arteries 86. *Nerves and ligaments* 86. *Head, Face, Nose, Eares, eyes, hands, in Thorax, &c.* 88
Wounds by Gunshot. 93,94

Z.

ZInziber. 71

FINIS.

Courteous Reader, these errors with divers others omitted, I desire thee as thou shalt finde them in reading, thou wouldest be pleased to amend them with thy pen.

FOl.2.lin.12.the elbowe bis repet. fol.5. lin.19. notice, wanting fol.19. lin. 10.m.to be omitted.fol.28.lin.10 is wanting fol.71. lin. 15. read splendent for spendent. idem.lin.23.idem. fol.158.lin.34.Pannadoes for Panadons fol.166. lin.21.read cup for cun. fol.174.lin.40.Absinthii fol.175. lin.6.cochearia for coclaria.187. lin.30. read ustum pro vestum.194.lin.10. read be more liquid.199.lin.12.read principally for pricipally. 211 read as for rs.236.lin.ult. Panchmiagogon for panchiagogon.255. read lapis granatus for granutus. idem farnaces for farnsis.256. pretious for prcious 259. lin.6. read hearb for heard. 323.lin.18 read is for if.330.lin.4.and of a fourth, to be omitted.353. lin.23.read ℈ifs.for ℈i. 355 lin. 26 and, to be omitted. 375 lin.26. there to be omitted.385.lin.18.read Cariocostnium for Cariacostrirum.

se necessity occasioned me to write to you
the reason withall I have heard sent you
5 lanseses in a case which we vse doe intreat you
the earnest care that you can possible vse
the speedy

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